The Manufacturing Confectioner

Published by THE MANUFACTURING CONFECTIONER PUBLISHING CO., 30 N. La Salle St., Chicago, Ill.

Vol. 7 MAY 1927 No. 5

Come to Atlantic City

the week of May 23rd

and take in
44th Annual Convention
and
4th Annual Exposition
of the
National Confectioners Association
of the United States

The PATHFINDER *in the Gelatine Industry*

A Certificate of ANALYSIS *with every delivery*

DELFT

The GELATINE *that* PROVES *its* QUALITY

Perfect Gelatine

"The Triumph of a Principle"

DELFT Gelatine is purer than the United States Food Laws require. BIOLOGICALLY CORRECT—warranted free from all harmful and liquefying bacteria.

Maintain the quality of your products by using DELFT GELATINE.

Harold A. Sinclair

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Dallas—Meyer-Blanke Company, 316 N. Preston Street

"Price is a relative term—Quality always a concrete fact"

HAROLD A. SINCLAIR, 160 Broadway, NEW YORK

Entered as Second-Class Matter October 24, 1922, at the Postoffice at Chicago, Illinois, under the Act of March 3, 1879. Published Monthly. Subscription Price $3.00 Annually.

Floor Plan Layout A ual Co

National Confoners A

to be held on

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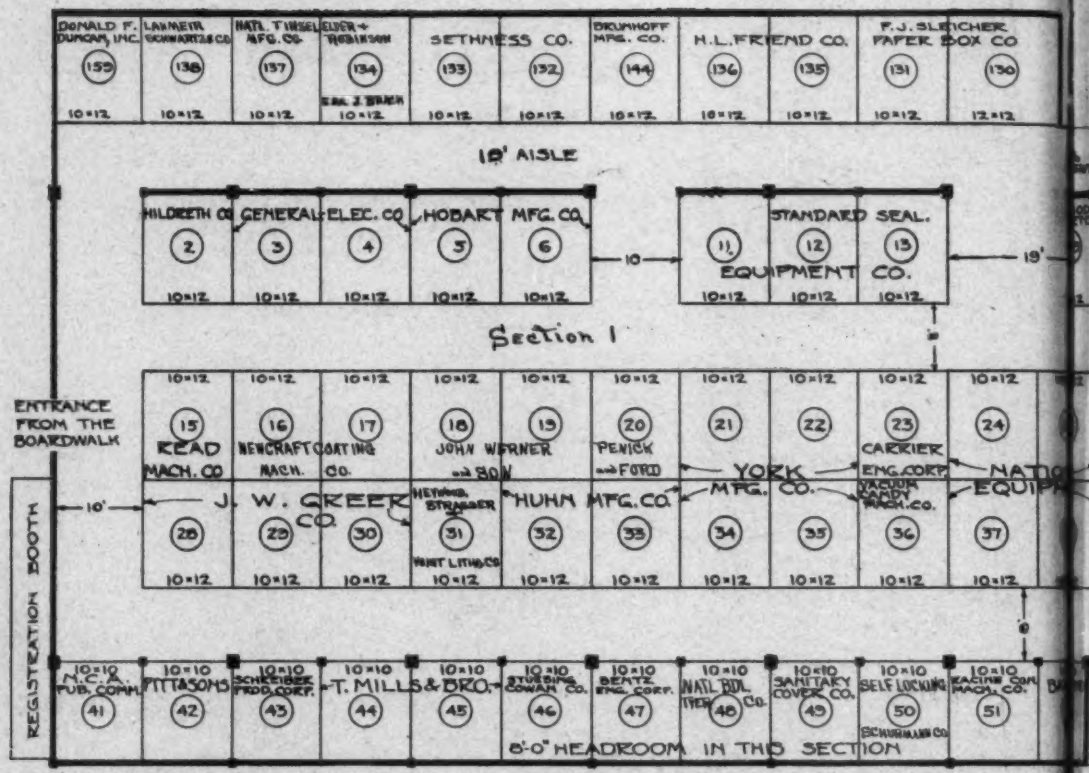

The Manufacturing Confectioner, Issue of May, 1927.

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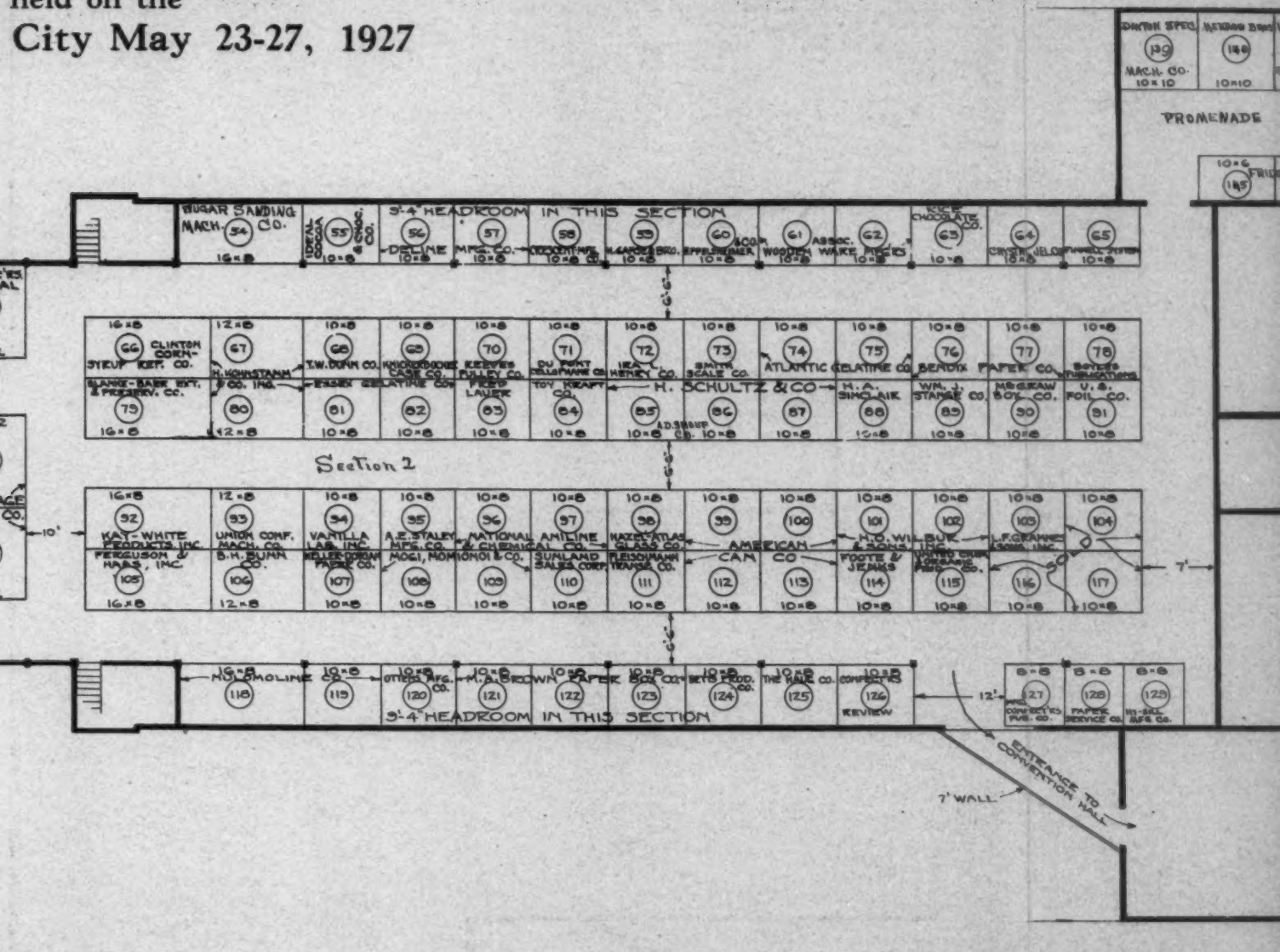
held on the

City May 23-27, 1927



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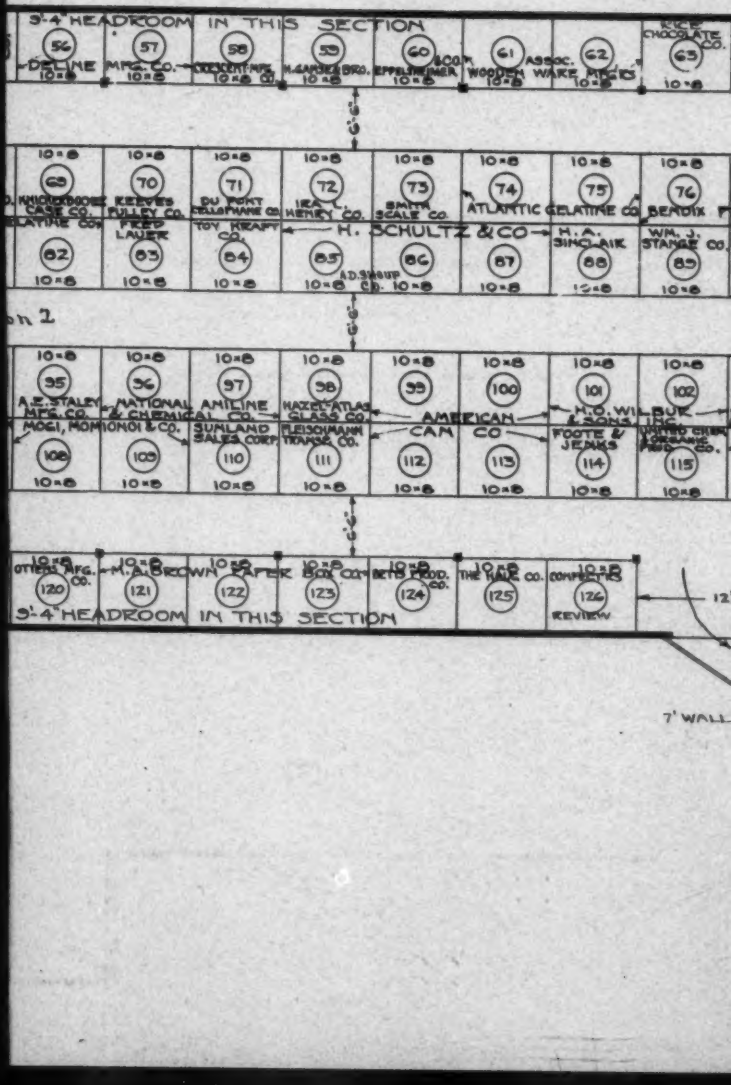

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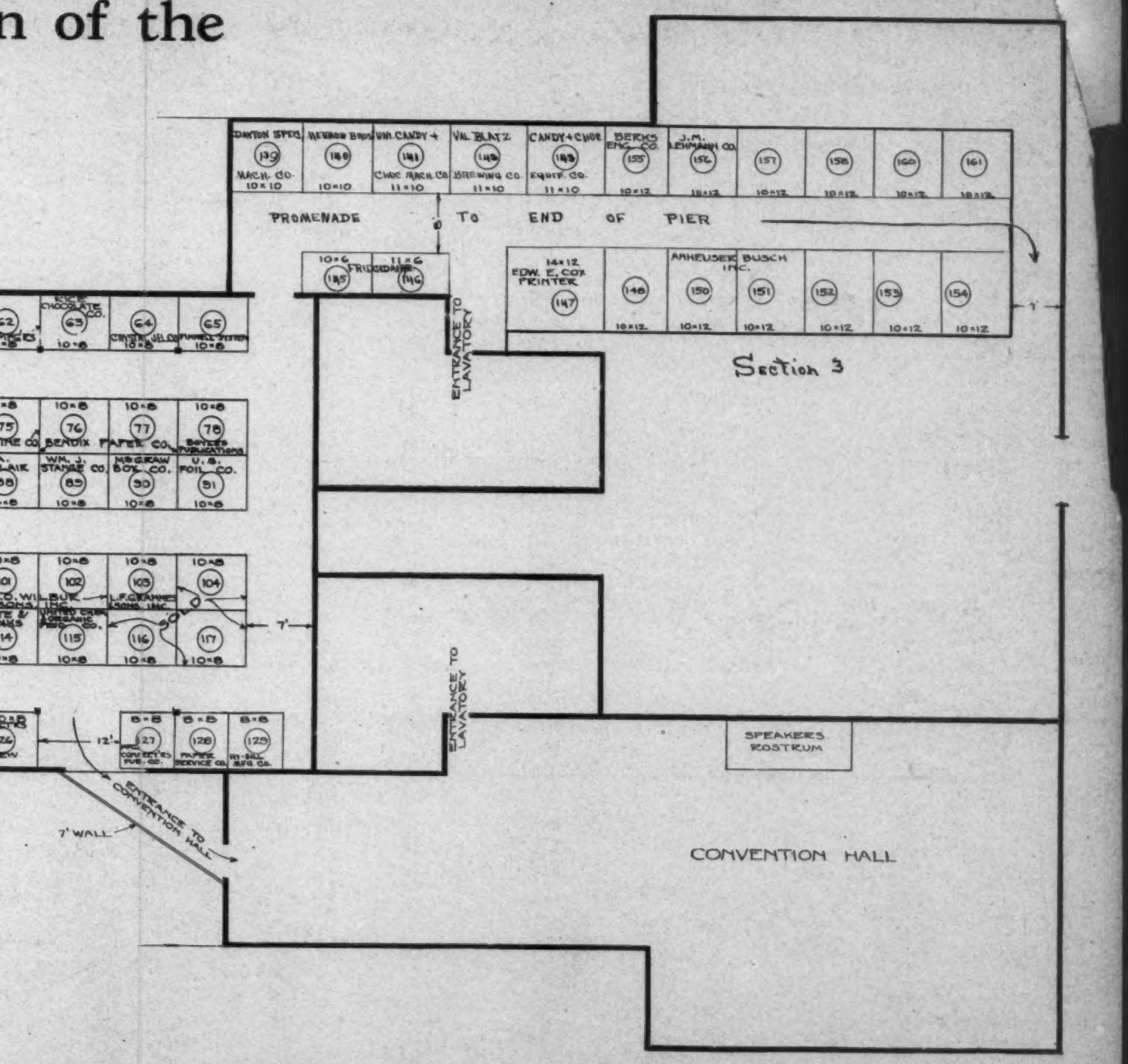
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ENTRANCE TO LAVATORY
Section 3
ENTRANCE TO LAVATORY
SPEAKERS ROSTRUM
ENTRANCE TO CONVENTION HALL
7' WALL
CONVENTION HALL

Choose your cleaner with *equal* care

OAKITE Service Men, cleaning specialists, are located at

Albany	Louisville, Ky.
Allentown, Pa.	*Milwaukee
Altoona, Pa.	*Minneapolis
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*Grand Rapids	South Bend, Ind.
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*Jacksonville, Fla.	Utica
*Kansas City	*Vancouver, B. C.
*Los Angeles	Williamsport, Pa.
	Worcester

*Stocks of Oakite Materials are carried in these cities.

HOW carefully you select each ingredient that goes into your candy! How strict your requirements for QUALITY and FLAVOR —to the end that the purity of your product may be maintained.

Choose your cleaner in the same exacting manner. Make your factory the testing laboratory. Let an Oakite service man perform the test with scientific Oakite materials, on ANY cleaning tasks you may specify.

You will receive conclusive evidence of the ability of Oakite to safeguard QUALITY in your product through cleaning *thoroughly* — removing every trace of grease, syrup, chocolate coating or filler from all equipment. You will also find that Oakite cleans faster than other materials, yet with perfect safety to all metal surfaces. And most important—this modern way of cleaning actually lowers costs through savings in time and labor.

Let us demonstrate these advantages to your entire satisfaction. Write us, without obligation.

OAKITE IS MANUFACTURED ONLY BY

OAKITE PRODUCTS, INC., 26c Thames St., NEW YORK

(Formerly OAKLEY CHEMICAL CO.)

OAKITE

TRADE MARK REG. U.S. PAT. OFF.

Industrial Cleaning Materials and Methods

Prepare now for

Successful Summer Business

Supply that needed stimulation to your
Summer Specialties with

Refreshing Fruit Flavors

which appeal to that thirsty feeling

Here are a few specialties of
particularly timely interest:

Oil of Orange Sweet California Coldpressed—supplies the complete refreshing flavor of a luscious, sun-ripened California orange.

Oil of Limes Distilled Imitation—Nature's deficiencies supplied by man's ingenuity—a very satisfactory **replacement** of the high-priced Natural Oil at **half the cost.**

Oil of Grape F. B. Special—Delicious and refreshing Grape Flavor —purely synthetic in composition, hence strong and economical.

Hard Candy Flavors—Based on true fruit extractives artificially fortified and fixed by Nature's own methods to withstand the rigors of your manufacturing process—Impart a truly natural fruit flavor to the finished confection at moderate cost.

We suggest particularly for your
BARRELS — FRUIT DROPS — LOLLY POPS — JELLIES

Hard Candy Flavors

ROOT BEER — GRAPE — SHERBET — BIRCH BEER
RASPBERRY — CHERRY — STRAWBERRY

Forty other different Flavors available in this Group.

Samples and full information on request. Send for our new and enlarged catalog

FRITZSCHE BROTHERS, INC.

"A FLAVOR FOR EVERY PURPOSE"

82 Beekman Street
NEW YORK

118 West Ohio Street
CHICAGO

TORONTO
Fritzsche Brothers of Canada, Ltd.
93 Church Street

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The Manufacturing Confectioner's Approved Advertising of

Confectioners' Machinery and Supplies

and Miscellaneous Advertising Directed to Manufacturing Confectioners

POLICY: THE MANUFACTURING CONFECTIONER *is essentially a manufacturers' publication and therefore is a logical advertising medium only for confectioners' supplies and equipment. The advertising pages of* THE MANUFACTURING CONFECTIONER *are open only for messages regarding reputable products or propositions of which the manufacturers of confectionery and chocolate are logical buyers.*

This policy EXCLUDES advertising directed to the distributors of confectionery, the soda fountain and ice cream trade. The advertisements in THE MANUFACTURING CONFECTIONER *are presented herewith with our recommendation. The machinery equipment and supplies advertised in this magazine, to the best of our knowledge, possess merit worthy of your careful consideration.*

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Unco Simile

Fruit Flavors

(IMITATION)

Natural fruit flavors are impractical and unsatisfactory for use in many confections since, whatever their delicacy of flavor, they lack strength and do not impart their character to the finished product unless fortified in some way. For the candy maker their place is admirably filled by

Unco Simile Fruit Flavors

These valuable materials are as close to nature in flavor as expert attention and long experience can make them and have the additional merit of high concentration.

To employ them is to insure economy in manufacturing costs and satisfaction in results.

UNGERER & CO.

124 West 19th Street NEW YORK

"MERCKENS QUALITY"

Never means but one thing—the BEST Chocolate produced regardless of where or by whom manufactured.

Merckens specializes in the manufacture of Quality Chocolate only. Some of the Merckens Brands are made according to the Swiss Fondant Process, which slightly modifies the sugar and brings out the full, rich flavor of the superfine grade of cocoa beans used in these brands.

Other of the Merckens Quality Chocolate Products include Superior Quality Cocoa Powder, Chocolate Liquor and Chocolate Rice—a fine-grain chocolate shot, with beautiful natural finish for decorative uses.

Samples and Prices submitted on request

MERCKENS CHOCOLATE CO., INC.

Factory and Main Office

SEVENTH AND JERSEY STREETS

BUFFALO, N. Y.

BRANCHES AT

NEW YORK
25 W. BROADWAY

BOSTON
90 WASHINGTON ST., NORTH

CHICAGO
HANDLER & MERCKENS, INC., 186 N. LA SALLE ST.

This Golden

E.H. EDWARDS Says~

E. H. Edwards Co.

SPECIALTY MANUFACTURERS OF

MARSHMALLOWS AND FUDGES

227-231 W. AUSTIN AVE. CHICAGO

TELEPHONE SUPERIOR 5021 5022-5023

February 23, 1927.

Franklin Baker Company,
15th & Bloomfield Streets,
Hoboken, N. J.

Gentlemen:

We enclose herewith signed contract covering our requirements on Toasted Coconut for 1927.

We appreciate the prompt service and uniformity in quality of your Golden Toasted Coconut. To this quality we attribute to a great extent the large volume of business in our ROASTY TOASTY MARSHMALLOWS in which these goods are used.

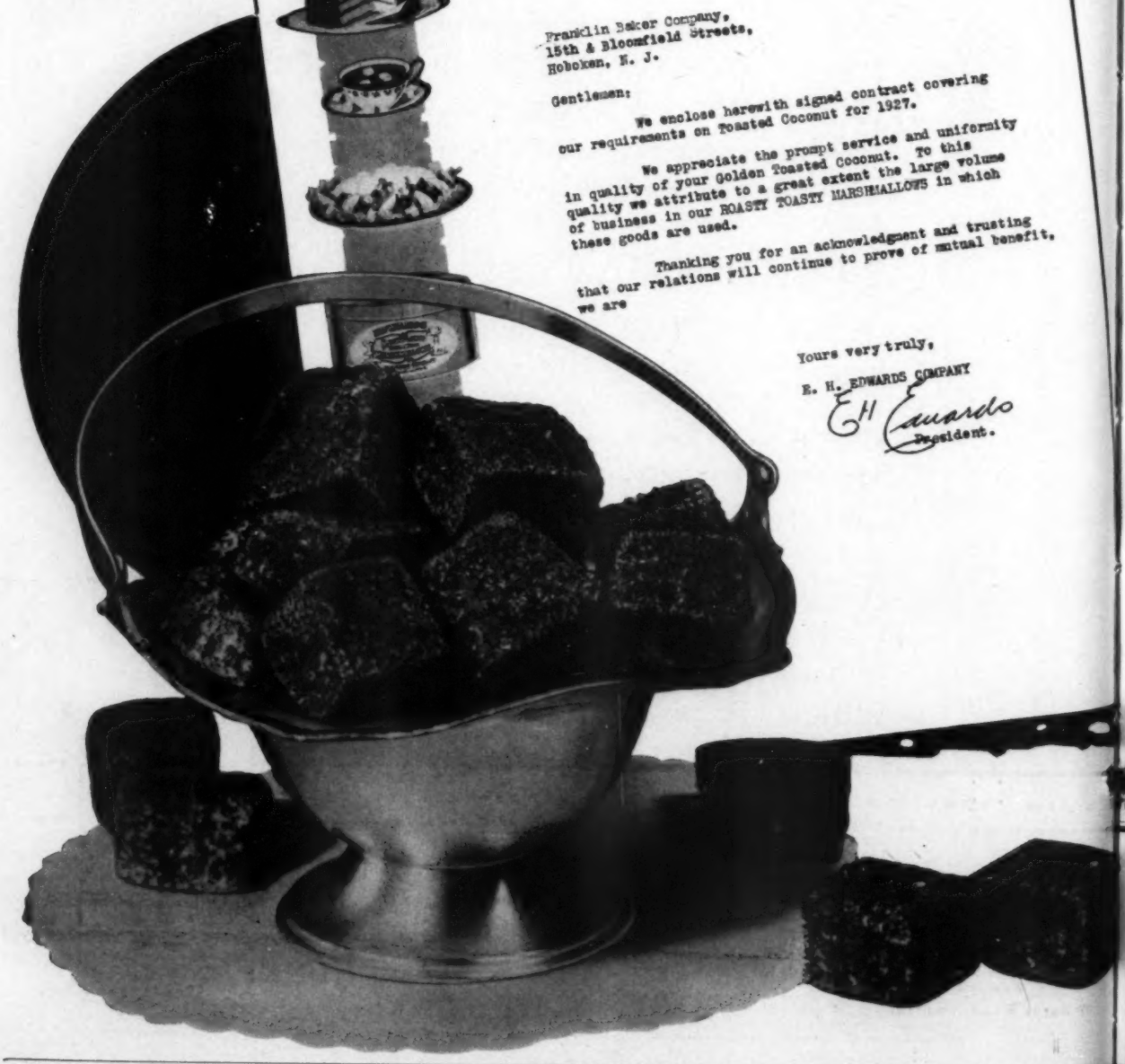
Thanking you for an acknowledgment and trusting that our relations will continue to prove of mutual benefit, we are

Yours very truly,

E. H. EDWARDS COMPANY

E H Edwards

President.



Toasted Coconut

will also increase *your* Marshmallow Volume

EDWARDS has made his large marshmallow business secure by establishing a recognized quality product. The uniform attractive appearance and fresh nutty flavor of his ***Roasty Toasty Marshmallows*** has been accomplished by the constant use of our

GOLDEN TOASTED COCONUT

"The Economy Nutmeat"

It is not fair to the future of your organization to use "bargain" lots of ***Toasted Coconut,*** or attempt the preparation of ***"Toasted"*** in your own plant from Imported Coconut.

Secure the pre-eminence of your ***Toasted Marshmallows*** by using Baker's Coconut, the attractive appearance and delicious flavor of which cannot be excelled.

ite for experimental samples and attractive prices

Golden Toasted Coconut is a specialty topping prepared by the makers of *Gem Imported Coconut*

Franklin Baker Company

Hoboken, New Jersey

Canadian Address
Franklin Baker, Ltd.
20 Bates Road, Outremont, Montreal

California Blue Diamon

All of our broker representatives, listed below, are in position to arrange for quick delivery of California Blue Diamond Brand Almonds to you. These broker representatives will consider it a pleasure to serve you.

Albany, N. Y., Arthur F. Wille Co., Inc.
Albuquerque, N. M., The S. P. R. Co.
Amarillo, Texas, Wingrove-Austin Co.
Atlanta, Ga., Lee & Beall Co., Inc.
Augusta, Ga., J. P. Keenan & Co.
Austin, Texas, W. T. Mayne Co.
Baltimore, Md., Delcher & Co.
Birmingham, Ala., Pankey-Loyd Brokerage Co
Boise, Idaho, Reilly Atkinson & Co.
Boston, Mass., Barclay, Brown & Jones
Bristol, Tenn., John A. Goodwin
Buffalo, N. Y., C. M. Snow & Co.
Butte, Mont., Cooney Brokerage Co.
Charlotte, N. C., J. N. Allen & Co.
Chattanooga, Tenn., Price & Company
Chicago, Ill., Cal. Almond Growers Exchange
Cincinnati, Ohio., Bodemer Davies, Inc.
Clarksburg, W. Va., Blair Willison Co.
Cleveland, Ohio, Housum Kline Co.
Columbia, S. C., Auld & White, Inc.
Columbus, Ohio., Kiser & Hoe Co.
Cumberland, Md., Buley-Patterson Co.
Dallas, Texas, Palmer Bros.
Dayton, Ohio, Loy & Co.
Denver, Colo., Clark-Thurber Brokerage Co.
Des Moines, Iowa, Elwood H. Royer, Inc.
Detroit, Mich., Ed Coe Co.
Duluth, Minn., L. S. Gordon Co.
El Paso, Texas, White Brokerage Co.
Evansville, Ind., F. W. Griese
Fargo, N. D., Geo. R. Freeman & Son
Fort Smith, Ark., Read Brothers
Fort Worth, Texas, Wingrove-Austin Co.
Greensboro, N. C., J. N. Allen & Co.
Greenville, S. C., Chas. M. Britt Co.
Houston, Texas, Perry Harde Co.
Huntington, W. Va., Willison-Sayre Co.
Jackson, Miss., Nance & Patrick
Jacksonville, Fla., Baker & Thames
Kansas City, Mo., Gabel Johnson Jury Co.
Knoxville, Tenn., J. K. Haley Co.
Lincoln, Neb., Cartan & Jeffrey Co.
Little Rock, Ark., Baker-Wille Co.
Los Angeles, Calif., W. F. Beesemyer Co.
Louisville, Ky., Pickrell & Craig
Lynchburg, Va., Daniel W. Sale Co., Inc.
Macon, Ga., Ouzts, Mitchell & Whaley
Memphis, Tenn, Jacob J. Peres & Co.
Miami, Fla., Baker & Thames
Milwaukee, Wis., Otto L. Kuehn Co.
Minneapolis, Minn., Lincoln-McCallum Co.
Mobile, Ala., Watson Brokerage Co.
Montgomery, Ala., S. T. Shank
Nashville, Tenn., Morgan & O'Brien
New Orleans, La., Gough Brokerage Co.
New York, N. Y., H. E. Wood & Co., Inc.
Norfolk, Va., Kramer-Spahn & Moore
Oklahoma City, Okla., Wallace Brokerage Co.
Omaha, Neb., Cartan & Jeffrey Co.
Paducah, Ky., J. E. English & Co.
Pensacola, Fla., Isaacs Brokerage Co.
Peoria, Ill., Seaton & Co.
Philadelphia, Pa., Corby-Cobb Co.
Phoenix, Ariz., Winchester Coe & Co.
Pittsburgh, Pa., Walton-Cooper Co., Inc.
Portland, Ore., Ariss, Campbell & Gault
Pueblo, Colo., L. C. Duncan Selling Co.
Roanoke, Va., W. S. Clement Brokerage Co.
Rochester, N. Y., C. M. Snow & Co.
St. Joseph, Mo., Russell Brokerage Co.
St. Louis, Mo., Ford, Schlesinger & Hillis, Inc.
St. Paul, Minn., Lincoln-McCallum Co., Inc.
Salt Lake City, Utah, Fabian Brokerage Co.
San Antonio, Texas, Linnartz & Frey
Seattle, Wash., Ariss, Campbell & Gault
Shreveport, La., E. P. McKenna Co.
Sioux Falls, S. D., Cartan & Jeffrey Co.
Sioux City, Iowa, Cartan & Jeffrey Co.
South Bend, Ind., Martin Brokerage Co.
Spokane, Wash., Kelley-Clarke Co.
Syracuse, N. Y., Arthur F. Wille Co., Inc.
Tacoma, Wash., Ariss, Campbell & Gault
Tampa, Fla., Hillsboro Brokerage Co.
Toledo, Ohio, Frank H. Lutz Co.
Tyler, Texas, E. P. McKenna Co.
Vancouver, B. C., Ariss, Campbell & Gault
Waco, Texas, Eubank Brokerage Co.
Washington, D. C., E. A. Coleman, Inc.
Wheeling, W. Va., James Cummins & Co.
Wichita, Kan., Ridnour Brokerage Co.
Wilkes-Barre, Pa., Scott & Kelly, Inc.
Wilmington, N. C., J. N. Allen & Co.

California Almond Growers Exchange

311 California Street **SAN FRANCISCO, CALIF.**

Brand Shelled Almonds

To facilitate quick and economical deliveries to our many shelled-almond customers we are maintaining stock of the following mentioned varieties and packings of California Blue Diamond Brand Shelled Almonds, at both New York and Chicago:

Variety	*Packed Double Bags 160 Lbs. Net Weight*	*Packed 25 Lbs. Net Weight Boxes*	*Packed 5-lb. Cartons (Ten Cartons Per Case)*
Nonpareil Medium	45½c	47½c	48½c
IXL Medium	45½c	47½c	.....
Ne Plus Medium	45c	47c	.....
Nonpareil Sheller Run	44½c	46½c	.....
IXL Sheller Run	40c	42c	.....
Ne Plus Sheller Run.....	40c	42c	.....

Above prices are per pound, net weight, either F. O. B. New York or F. O. B. Chicago

Whole Blanched Nonpareil or IXL in Boxes or Bbls. 64½c F.O.B. N. Y. or Chicago

Considering present prices on imported shelled almonds, it will be observed that the above-mentioned prices on **California Blue Diamond Brand Shelled Almonds** are very reasonable.

"Medium" gradings are composed entirely of well-graded whole kernels.

"Sheller Run" gradings are guaranteed not to contain in excess of 25 per cent broken kernels.

Before being shipped, all of our Blue Diamond Brand Shelled Almonds are completely sterilized against the development of moth and worm through employment of the Vacufume System, using carbon bisulphide gas.

Upon request, we shall be glad to furnish type samples of any of the above-mentioned varieties of Blue Diamond Brand Shelled Almonds.

We sell only to jobbers and to wholesale manufacturing confectioners. We do not sell retailers.

California Almond Growers Exchange

311 California Street **SAN FRANCISCO, CALIF.**

Whistolene

OFFICE AND FACTORY
2618-28 JASPER PLACE
CENTRAL MANUFACTURING DISTRICT
CHICAGO

EASTERN OFFICE AND FACTORY
853-39th STREET, BROOKLYN, N.Y.

WHITE-STOKES COMPANY
INCORPORATED
MANUFACTURERS OF
PURE FOOD PRODUCTS

CHICAGO
TELEPHONE LAFAYETTE 7640

To Makers of Cream and
Fruit Center Candies:

WHISTOLENE - and its amazing economies is here! You can use it in making direct-process cast creams on ordinary equipment. Save hours of time and all the cost of expensive special equipment!

Its use improves quality, texture and character of all fruit or cream centers. It inverts and congeals the cream; keeps moisture in suspension; produces a delicate, creamy texture and prolongs keeping qualities without impairing purity, flavor or saleability.

A wonderful product to use in combination with strawberries and other fruits. It is already being designated as the "quick Cordial" for all cherry centers. Wherever cream and fruit-center candies are made, WHISTOLENE'S economies will be welcomed with real enthusiasm. The things it helps to accomplish have been vainly sought after for years. NOW you can say "Good Bye" to "leakers" and wasteful methods forever!

WHISTOLENE is quickly available to Save Time, Stop Waste, and help you Make More Money. It is the most amazing pure food candy-making ingredient of the Age. We guarantee its purity. Order a trial package of Whistolene today. Ask us to send you formulas. Send a Post Card or Telephone.

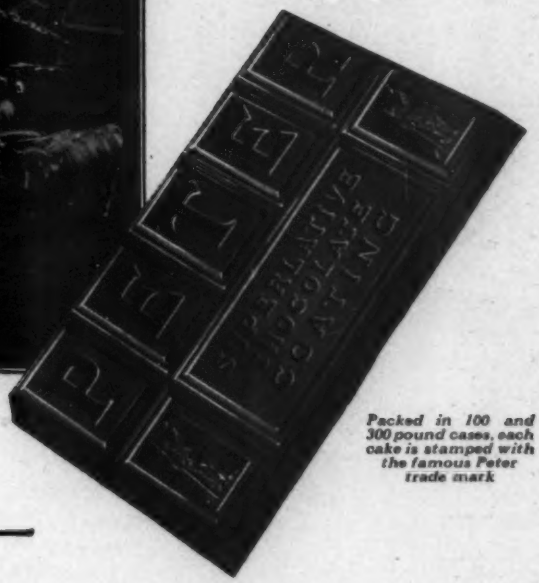
Cordially yours,

WHITE-STOKES COMPANY, Inc.

ANOTHER *White-Stokes* PRODUCT

In these eight factories are made the chocolate products bearing the internationally known Peter Cailler Kohler trade mark:

Fulton, N. Y., U. S. A.
Broc, Switzerland
Orbe, Switzerland
Pontarlier, France
Hayes, England
Antwerp, Belgium
Hattersheim, Germany
Intra, Italy



Packed in 100 and 300 pound cases, each cake is stamped with the famous Peter trade mark

Peter's Coatings—

are products of the best chocolate making skill and experience in the world . . .

SKILL and knowledge—based on long years of experience in practical chocolate making—produce the exceptional Peter Coatings.

Experts of seven nationalities—versed in every phase of the art of chocolate making—unite to maintain and increase the Peter supremacy and the Peter standards.

Practical methods of manufacture—rigid supervision—selection of only the finest ingredients make Peter's Coatings thoroughly worthy of the prestige created by the name "Peter." And for over half a century this name has stood as a symbol of the highest quality in chocolate.

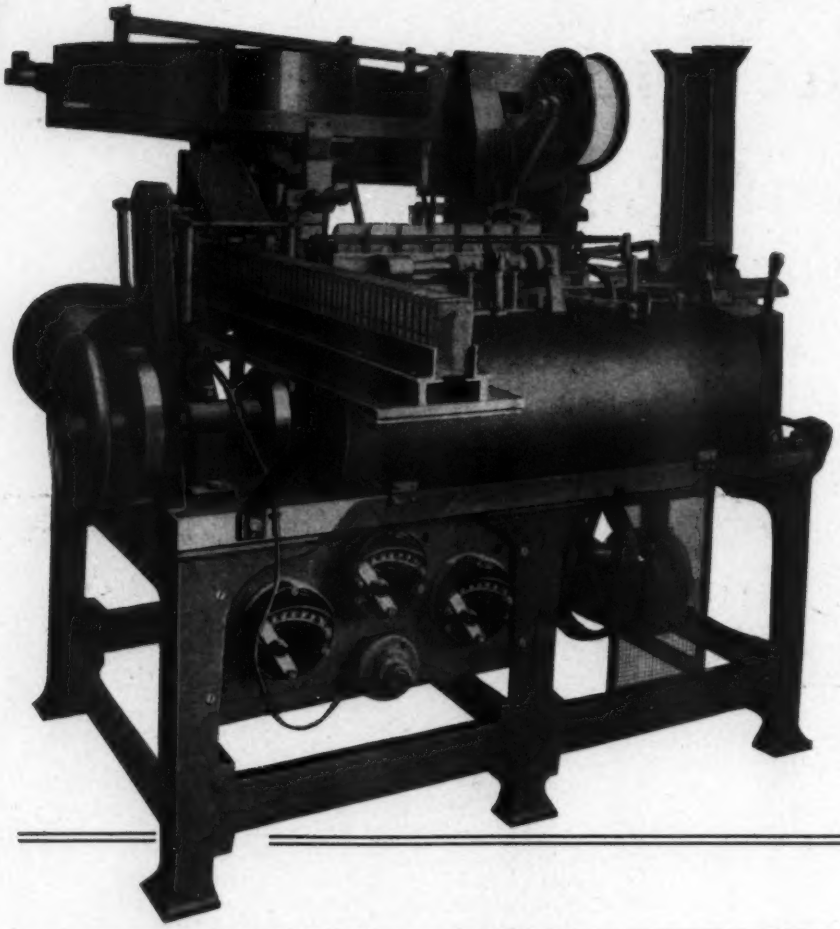
Discriminating candy manufacturers select Peter's Coatings because they can be relied on to give their finished product a rich and delicious flavor and dependable uniformity.

Peter Cailler Kohler Swiss Chocolates Co., Inc., 131 Hudson St., New York City. Branch Sales Offices: 722 Nicholas Bldg., Toledo, Ohio; 431 So. Dearborn St., Chicago, Ill.; 3620 Third Ave. So., Minneapolis, Minn.

"High as the Alps in Quality"

The Peter line covers every chocolate making need . . . It includes Milks, Vanillas, Sweets, Bitter Sweets, Liquors . . .

PETER'S CHOCOLATE COATINGS



Packing Counter Goods, 5c, 10c and 15c Units

45 to 125 Cartons Per Minute

The modern way of merchandising hard candies and other confections, in cartons for quick counter sales in small price units, using this:

PAPER LINING and CARTON FILLING MACHINE

The above machine feeds waxed or glassine paper from rolls, lines carton and fills with required amount of articles, closing carton automatically. FLOOR SPACE: Length, 8 feet. Width, 6 feet. H. P. ½. Send us sample of your product; we will quote price on equipment for cartoning your goods automatically.

Cartoning Machinery Corporation
Newport, Rhode Island

Statement of the Ownership, Management, Circulation, Etc., Required by the Act of Congress of August 24, 1912,

of The Manufacturing Confectioner, published monthly at Chicago, Ill., for April 1st, 1927.

State of Illinois, County of Cook, ss.—Before me, a notary public in and for the state and county aforesaid, personally appeared Earl R. Allured, who, having been duly sworn according to law, deposes and says that he is the publisher of The Manufacturing Confectioner, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit: 1: That the names and addresses of the publisher, editor, managing editor and business manager are:

Name of publisher and editor—Earl R. Allured, 30 N. La Salle St., Chicago, Ill. Business Manager—Earl R. Allured.

2. That the owners are: The Manufacturing Confectionery Publishing Company; Earl R. Allured, Chicago, Ill.; Adolph Goeltz, Deerfield, Ill. 3. That the known bondholders, mortgagees and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages or other securities are: None.

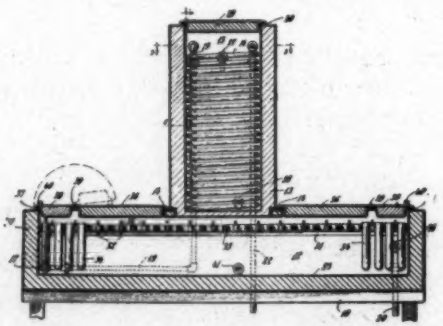
4. That the two paragraphs next above, giving the names of the owners, stockholders and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than a bona fide owner; and this affiant has no reason to believe that any other person, association or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

EARL R. ALLURED, Publisher.

Sworn to and subscribed before me this 21st day of March, 1927.
(Seal) PRUDENCE M. WALKER.
(My commission expires March 26, 1928.)

1,624,678. APPARATUS FOR FREEZING AND MOLDING CONFECTIONS. Milton Schnaier, New York, N. Y. Filed Jan. 31, 1924. Serial No. 689,746. 5 Claims. (Cl. 62—31.)

1. An apparatus of the character described comprising a receptacle adapted to receive a freezing liquid, guiding and supporting means within said receptacle, a refrigerating receptacle mounted



centrally upon said first named receptacle, means for circulating said liquid through said receptacles, and means at opposite sides of said first named receptacle for the reception and discharge of the substance to be treated, substantially as specified.

What's in an Idea?

$30,768.00 of new business on one flavor--based on a new idea of ours

Which was adopted by one of the old line eastern manufacturers of candy on January 20, 1927

But get the rest of this story:

(1) Our idea was accepted *by* the manufacturer on *January 20, 1927.*

(2) His sales to April 30, 1927, were $30,768, on this new piece of **bulk goods**—this new business was *in addition to his regular volume,* and to date his production department is running full force—the biggest sales success in his line.

(3) The latest word from this same manufacturer reads: *"What else have you got you believe we can use?"*

When we put out a flavor we have a merchandising idea to go with it. We have worked out several more good, sound ideas which we will offer to progressive manufacturers who will listen open-mindedly.

Write us or see Mr. R. J. Rooney at Traymore Hotel during N. C. A. Convention Week

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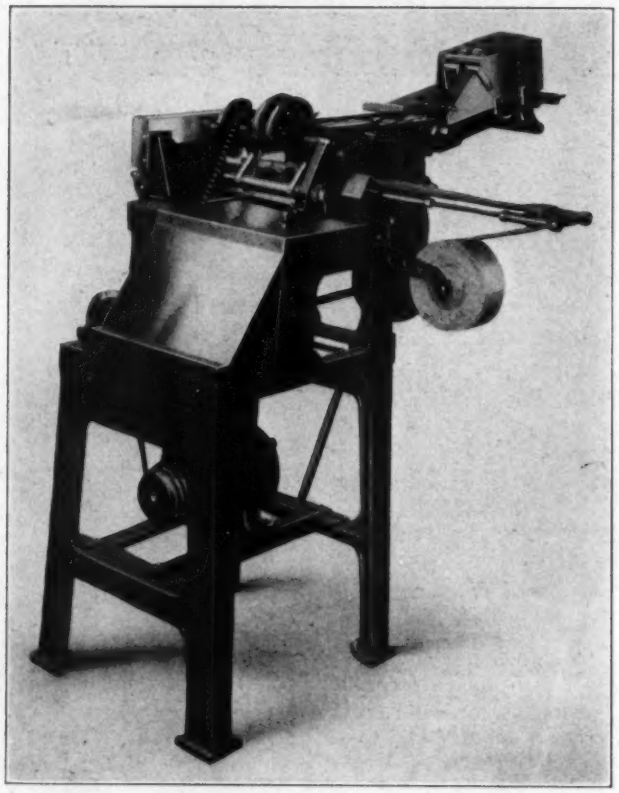
Stick Candy Wrapping Machine



One Girl Operates

THIS machine automatically counts the sticks into standard count lots, making it easy for one girl to operate, make cartons and pack 30,000 to 40,000 sticks per day.

This machine is simple in construction, and all operations are in plain sight. Self clearing and keeps clean in operation.

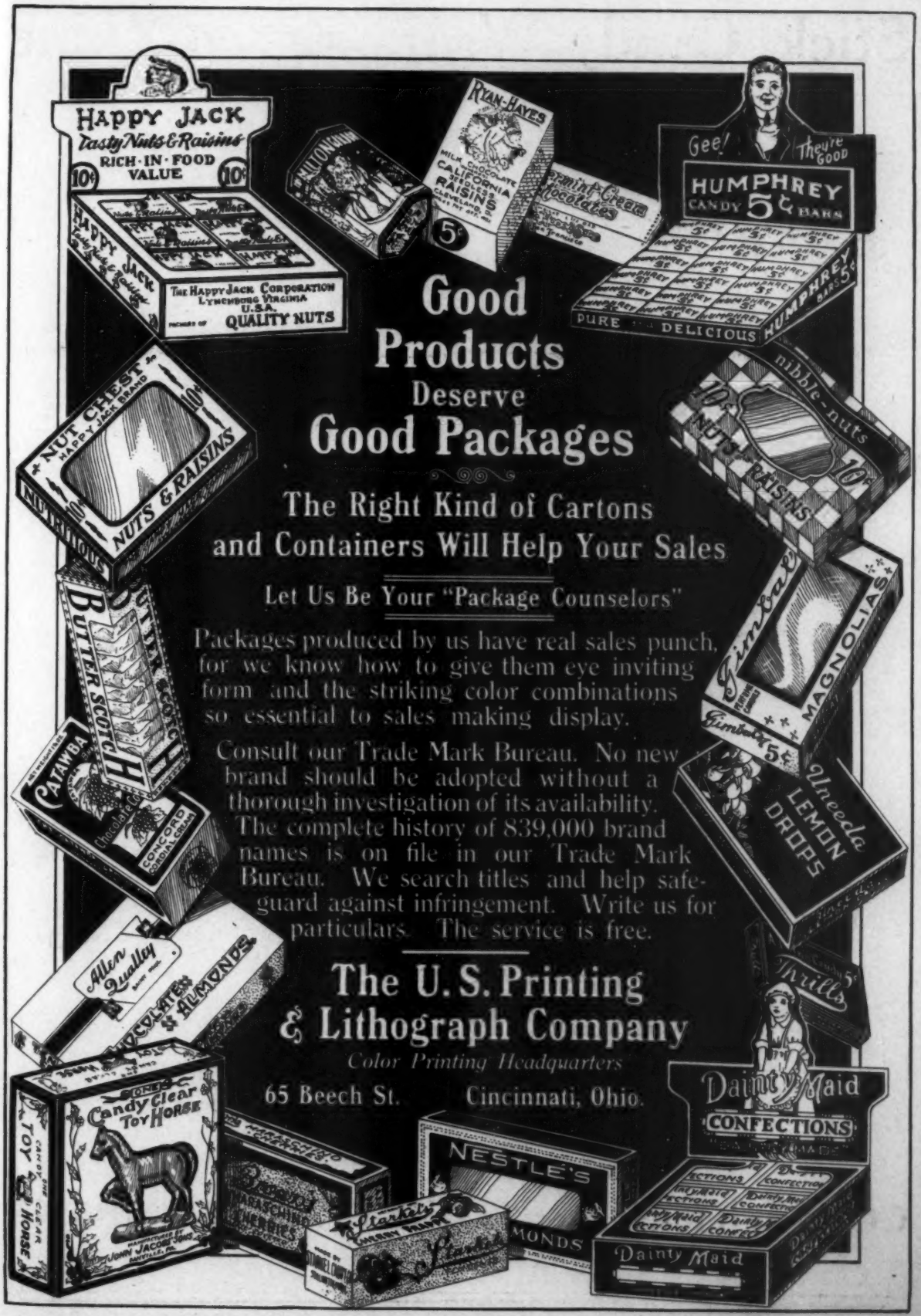
Here is a Stick Candy Wrapping Machine that has passed the experimental stage and answers every manufacturing requirement and is being used successfully by large manufacturing confectioners.

WRAPS flint, sugar or filled stick with practically no breakage. Wraps sticks varying from 3 inches to 5 inches in length and 5/16 inch to 3/4 inch in diameter and automatically takes care of a wide range in sizes without adjustment.

Send us samples of your stick, which we will be glad to wrap on this machine and return to you for your inspection. All shipments made on thirty day approval.

CONFECTIONERS EQUIPMENT COMPANY

KANSAS CITY, MISSOURI



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There Are Sugars and Sugars

The indiscriminate buyer of sugar is bound to drift into difficulties whether the lot is cane or beet sugar. Buying on basis of price only one must accept all possible variation in both sugars. A far better way would be to buy sugars on the basis of a laboratory candy test.

by Herman Lebeson

THE growth of an industry is generally accompanied by a simplification of the processes of manufacture prevailing in that industry. Very often this is brought about by changes of a mechanical nature, such as the introduction of the enrober, the mogul, the Chinook continuous starch dryer, etc., into the confectionery industry. Just as often the process is simplified by changes of a chemical nature, such as the development of thin boiling starches, high grade gelatines, and a corn syrup that is especially adapted to the needs of the confectioner. The fact that the candy maker of today can make up his large batches of a few simple ingredients and turn out a uniform product every day in the year is largely due to the marvelous progress made during the past two decades in the process of manufacture and chemical control of his raw materials.

Of especial significance is the progress made in the sugar industry. Sugar is to the candy maker what flour is to the baker. It is his staff of life. Unlike the baker, however, he is called upon to make an infinitely larger range of products, varying widely in their chemical as well as physical nature. Starting with an absolutely chemically pure sugar he could produce such a variety of goods by boiling the batch to a higher or lower temperature, or by changing the proportion of the other ingredients in relation to sugar.

But commercial sugar is not yet 100 per cent chemically pure sucrose. There is a small fraction of a per cent, from one-tenth to four-tenths of a per cent, of impurities consisting of moisture, invert, lime salts, organic and inorganic gums that cling to the sugar crystal and determine the value of these sugars to the candy maker. Sugars with a higher percentage of impurities are called weak sugars because they will break up easily on boiling to form invert. Sugars with a low percentage of impurities are called strong sugars because of their resistance to inversion. The efforts of the sugar chemists during the last decade were bent on the removal of these impurities in the process of refining.

The sugars most commonly used in the confectionery industry are:

1. Coarse granulated cane sugar
2. Fine granulated cane sugar
3. Berry or fruit sugar
4. Beet sugar

Practically all cane sugar is produced in two stages. First the cane juice, partly purified, is boiled to brown sugar on the sugar cane plantations. The brown sugar is then shipped to the refineries, where it is washed, remelted, and sent through the processes of liming, carbonation, filtration and boiling to produce the various types of cane sugar found on the market. Beet sugar, on the other hand, is produced in one stage. Juice extracted from sliced beets is treated with lime, carbonated and filtered several times. It is then concentrated in three or four effect evaporators, sulphured and filtered again, and sent to the white pan where it is finally boiled to produce white sugar.

The chief difference in the two processes is that beet juices are not filtered through bone char before going to the white pan. Bone char is generally relied upon to remove certain colloidal and gummy materials that are not completely removed in ordinary filtration. It is this small percentage of gum that causes the characteristic foaming of beet sugar, and is, in a general way, an indication of the efficiency of the refining process. However, a pure white beet sugar can be used in the candy factory for every purpose that a fine granulated cane sugar can be used, with the exception of boiling for crystal syrup. The foaming of a high grade beet sugar is so slight that it should cause no difficulty.

It has already been stated that the strength of a sugar depends on its purity

(*Continued on Page* 62)

U. S. Acts in Cocoa Crisis

Complaints of "Corner" Precipitate Federal Investigation

Press "Leak" Worries Dealers

THURSDAY, April 28th, will always remain memorable in the history of the bean market, for on that day a Federal representative appeared suddenly on the floor of the New York Cocoa Exchange and extended to its members separately the cordial invitation of the United States District Attorney to attend a series of hearings at his office to tell what they knew about the alleged manipulation of the cocoa market. It was as if a shell had exploded in their midst. During the confusion which followed prices broke almost a cent a pound, futures registering net declines of 50 to 78 points at the close.

Thus "the wheels of the Government grind slowly but they grind exceeding fine" may be a fitting conclusion to the hectic period through which we have just passed. It is almost a year and a half since this paper conducted in its columns its now historic discussion of the New York Cocoa Exchange. The full significance of the predictions contained in that editorial has at last dawned upon the confectionery industry.

A year later, in our issue of January, 1927, THE MANUFACTURING CONFECTIONER first publicly directed attention to the activities of the so-called British Combine and called for concerted action on the part of American manufacturers. The effect was instantaneous. The editorial was openly read and denounced from the floor of the Exchange. Then, one by one, the other trade papers took up the fight and by March the entire industry had been galvanized into action. Hand-to-mouth buying was resumed. Several of the smaller plants shut down. Others went in for assorted instead of straight cars, reducing their immediate consumption by one expedient or another. The appearance on the market of foreign products made from American rejected cocoa towered insult upon injury. And in the face of this critical situation, the Department of Agriculture announced their intention of being even more strict in the examination of incoming shipments. Finally, upon the complaint of several of the manufacturers, the Department of Justice commenced its present investigation.

Although the full force of the government's action did not hit the trade until April 28th, it is understood that the Bureau of Investigation had been collecting data from chocolate manufacturers for at least a week or ten days previous. Any knowledge of these interviews which the trade may have possessed must have been kept carefully under cover for the subsequent invitations to appear at the District Attorney's office came as a genuine surprise to dealers and brokers alike. It was a real "First Notice" Day!

The trade lost no time in trying to suppress the news of the government's action. At a meeting held that night it was decided to offer no opposition to the inquiry, but to prevent as far as possible the spread of information into the open market. The usual market reports appeared, devoid of extended comment. Vigilance and intense secrecy became the order of the day. But in spite of all their efforts the news leaked out and was momentarily played up in the general press.

The slow, tedious process of examining witnesses, something like two a day, has made it apparent to everyone that the investigation will not be over in a few weeks or even in a month, but is likely to be a long, drawn out affair. The District Attorney is attacking the problem in a thorough, business-like manner and if there are any skeletons in the closets of the Exchange they are apt to be pretty well shaken out before the case is over.

THE action of the government has already had a settling effect upon the market, which is one cent closer to a free trading basis than it was before the investigation started. Inquiries of this sort

have a way of bringing all the dirt out on the surface where it can be viewed in its proper perspective, and hence whether or not the authorities find incriminating evidence to pin on this side of the ocean, the net result should be to purge the trade of many of the long-standing abuses which have beset not only the manufacturers but the dealers themselves.

There is one thing we must realize. Evidence which is adduced against individual members of the Exchange need not necessarily incriminate the Exchange itself. In fact, we need not place too much dependence upon the ability of the investigators to prove that body guilty of *anything*. The Exchange is merely an instrumentality which may be used or misused and it is quite possible that it may be able to justify its usefulness to the producer if not to us. Our present difficulties will most likely be traced to at least half a dozen factors all the way from the Combine's method of bartering for cocoa in Gold Coast Colony to the senseless overproduction of the coating manufacturers themselves. That is the way it usually works out.

So we cannot merely sit on the sidelines and cheer. This is our golden opportunity to get the market back somewhere near a respectable level before the new Accra and Bahia crops come in in October, November and December. That result will only be achieved through the application of reasonable economic principles. Let us lay out a plan of action which will not only remedy this immediate condition, but absolutely preclude a recurrence of it in the future.

A Plan of Action

First and foremost, we want to keep our plant stocks at a minimum, produce only what is necessary and get on a strict hand-to-mouth basis as quickly as possible.

Then we want to bring all the pressure we can to bear upon the Department of Agriculture to increase the facilities available in the Port of New York for the examination of incoming cocoa. The present system is hopelessly inadequate and results in the rejection of many good lots of cocoa.

Those manufacturers and confectioners who buy cocoa butter can help by boycotting butter which is made from rejected cocoa. The beans from which such butter is made have in the majority of instances been resold by the importer before their arrival in this country. When the Department rejects them, the importer is forced to replace them in the open market, thus creating an additional demand for the raw material, and sending the price of cocoa to constantly higher levels. If we close the consuming outlet for this class of butter, the deliberate shipment to this country of inferior cocoas will be quickly discouraged.

We ought to urge a higher rate of duty on foreign chocolate goods which have been manufactured from a quality of cocoa which is unsalable in the United States. President Coolidge has discretionary power to raise the present duty by 50 per cent. We are honestly entitled to this added protection. Let's put it up to him.

Last, but not least, we ought to clean out our own house by insisting that chocolate manufacturers discontinue the vicious price guarantee against decline on our coating contracts. Such contracts are not only economically unsound, but are actually contributing to the terrific price burden which all of us must now carry! They encourage the candy manufacturers to overbuy. He buys twice, often three times the quantity of coating he actually requires. He calls in on the lowest price contract. The surplus is obligingly canceled. This tremendous overbuying of coating results in a serious overproduction and thus increases the demand for beans at times such as these. The more intensive the demand for beans, the higher the price of cocoa.

Thus, we have keen competition in the coating business with margins of profit reduced to the vanishing point, and at the same time an absolutely unwarranted demand for cocoa beans which moves the whole market for both raw material and finished product to inflated levels. Coating buyers who think that they are getting something for nothing in the guarantee against decline are being sadly deluded and the sooner everybody wakes up to the fact, the better it will be for the industry.

It is safe to say that right at this very moment the majority of coating buyers have due them on contracts scheduled to expire June 30th enough coating to last them the entire balance of the year. It was the insistent buying of cocoa for these unsatisfied contracts which helped to bring about the abnormal buying demand of the first few months of the year and kept prices mounting steadily upward.

And so, having mapped out a highly creditable program for ourselves, we can feel morally justified in demanding a similar housecleaning in the trading methods of the producers and the dealers. The next convention is close at hand. Let's strike while the iron is hot.

Sugar-Tolerant Yeasts in Chocolate-Coated Creams

By Margaret B. Church, H. S. Paine, and John Hamilton

Bureau of Chemistry, U. S. Department of Agriculture, Washington, D. C.

This is the first presentation to the confectionery industry of the complete report on this research work. A summary was released last year, but every manufacturing confectioner should have this complete data showing how the previously published conclusions were reached. This article was originally written for Industrial & Engineering Chemistry and published for first time in their issue of March, 1927, *but has been modified somewhat in respect to technical phraseology for publication in* THE MANUFACTURING CONFECTIONER. *The article as presented describes in detail the manner in which this scientific research work was done and the conditions which are necessary to furnish conclusive proof as to the causes of certain spoilage in candies. More technical details will be found in the original article, photostats of which will be furnished at cost on request. The sequel to this article will be published in an early issue.*—EDITOR.

Thousands of dollars are lost to candy manufacturers yearly through the bursting of chocolate-coated cream-center candies. The Bureau of Chemistry has found that yeasts of high sugar tolerance are capable of active growth in the cream centers and cause bursting through the formation of gas. Proper sanitary conditions at the factory, the use of sound ingredients, and the use of a cream containing syrup of high density, when permitted by the character of the cream, will reduce this trouble.

THE YEASTS as a class of microörganisms are well known because baking, brewing, wine and vinegar-making and other fermentation processes in which they are commonly utilized have been established for several thousand years.[6,*] It is not always realized, however, that the groups of yeasts associated with these industries represent only a few of the thousands of forms known to exist. Yeasts are generally distributed in nature. Certain yeasts are undoubtedly distributed in significant numbers only about those areas where the products with which their growth and reproduction are associated are found. Highly sugar-tolerant yeasts which are unable to exist in products of negligible sugar content are, therefore, naturally associated with sugar products about sugar-houses[3] and refineries, and soft-drink and candy factories.

At the request of the Research Committee of the National Confectioners' Association of the United States, the Bureau of Chemistry has investigated the "bursting" of chocolate-coated cream-center candy. "Leaks" in hand-rolled creams occurring within 24 hours and due to faulty dipping were excluded from the investigation. Samples of "exploded" chocolates were obtained through the affiliations of the National Confectioners' Association and the Carbohydrate Laboratory of the Bureau of Chemistry with the industry and through relations established with factories in Baltimore by the Microbiological Laboratory of the Bureau of Chemistry. The assistance from manufacturing confectioners was of value and sincerely appreciated.

*Numbers in text refer to bibliography at the end of article.

What Constitutes Cream or Fondant

Fondant or cream is a composite habitat or medium in which the bacteria and yeasts present may eventually die, remain dormant or flourish. The cream represents a unique physical condition or a syrup enveloping closely packed particles in the form of microscopic sucrose (cane or beet sugar) crystals and of fragments of partially coagulated egg white (when frappé is used). There are included also minute air pockets, unavoidable in the process of manufacture. The sucrose crystals and colloidal egg white fragments maintain their individuality in a cream, no matter how smooth in texture it may look, and they also continue their natural relationship to one another and to the mother syrup in which they are supported. Each sugar crystal retains about it, by means of molecular forces, a very thin film of syrup, just as sand grains in soil have a tenacious hold on the water in the soil.[5] The faces of sugar crystals, however, are more readily dissolved and broken down by forces at work in adjacent syrup films.

Microscopic scraps of partially or entirely coagulated egg white in the cream present an animal protein attractive to the bacteria found in dried egg products. The conspicuous bacteria in dried egg white are those which utilize proteins and resist a drying process through spore-formation, and not those which develop slowly in concentrated sugar products.

The spores of yeasts are not comparable to those forms termed spores in bacteria of, for example, the *Bacillus welchii* group. Although

spores of yeasts are claimed to be somewhat resistant to heat and drought,[11] they also are comparable to the slightly resistant spores of molds.[20] All sugar products would most naturally contain sugar-tolerant organisms in addition to other occasional resistant forms. Even refined granulated sugar, a product of unique purity for one obtained directly from the vegetative parts of a plant by an extensive process of manufacture, is said to contain sugar-tolerant yeasts and spore-forming bacteria.[10, 11, 22] Although the number of such yeasts in a high-grade granulated sugar is not large, the presence of even less than 50 such microörganisms per gram is of significance as a primary, though doubtless unavoidable, source of infection. As has been mentioned previously,[4] subsequent careless handling in the manufacture of candy is more properly identified with fermentation spoilage than such slight seeding of the raw materials with yeast cells.

The trouble known as bursting or "explosion" occurs in chocolate-coated creams of both the hand-rolled and cast type. The appearance of cracks in the coating, of extruded syrup at such cracks, and of fondant in long curls, columns, or even layers at cracks, and extensive breaks is evidence of such spoilage.

Previous Investigations

Weinzirl,[21] in 1922, continuing the work of Hill,[7] claimed that "explosion" in chocolates was due to *B. sporogenes*. As the controls in his experiments did not "explode," it is possible to come to one of two conclusions: (*a*) That the strain of *B. sporogenes* used was actually sugar-tolerant; or (*b*) that the controls were not treated to the technic of inoculation and, therefore, were not open to contamination incident to this technic. We agree with his statement that "apparently true explosions in chocolates are always due to the accumulation of gases formed by fermentative microörganisms." He notes that exploded chocolates contained yeasts, but disregards yeasts as a cause of bursting; that *Saccharomyces cerevisiae* inoculated into chocolates caused "explosion" in 10 days; and that two lots of exploded chocolates did not develop gas-forming bacteria on culturing into glucose Smith tubes (bacteriological medium with 1 to 1.5 per cent glucose).

Hill,[8] in experiments reported in 1925 and working with an organism which she believed to be *Clostridium multifermentans*, obtained gas production in inoculated and uninoculated tubes of imitation cream and in 9 out of 15 samples of inoculated chocolate creams. The organism did not grow when studied in sugar-free media, but its sugar tolerance was only tested in 1 to 1.5 per cent of the usual fermentation sugars.

Philbrick,[17] in 1926, notes that molding starch contains anaerobic spore-formers and suggests that explosions in chocolates are due to the inclusion of these organisms. His investigations do not present evidence of experimental work controlled in such a manner as to eliminate activities of sugar-tolerant yeasts. The presence of the forms ordinarily developing on standard bacteriological media is not of primary significance in this problem unless their tolerance for heavy sugar solutions is also proved. While not denying the possibility of sugar tolerance being proved for bacteria and microörganisms other than yeasts, we feel that Philbrick's investigations do not prove this point to the satisfaction of either the biologist or the candy maker.

Shutt[19] describes an instance in one factory where losses due to the bursting of chocolate-coated creams were controlled by eliminating vessels which could not be sterilized between batches. He shows that the yeasts which were developing in an uncleaned wooden barrel were capable of bursting paraffin seals in test tubes of nougat cream. Pink yeasts obtained from exploded creams did not cause bursting.

Preliminary Experiments

A fondant base, composed of 4 parts of sugar and 1 part of glucose brought to a temperature of 117° C. (243° F.) and a "bob," composed of 4 parts of sugar and 1 part of glucose brought to a temperature of 115° C. (239° F.) were made. The creams were composed of equal batches of the fondant and "bob" or syrup and 10 per cent (10 parts to 100) of frappé, heated together at 64° C. (147° F.). A commercial frappé, obtained from a confectioner's supply house, was used. The cream was inoculated before casting with *B. welchii* (pathogenic strain (No.HL) from the U. S. Public Health Service and a strain[9] from salt rising bread) grown in the usual liquid culture media for anaerobes. Sterile water was added to the controls before casting. No bursting or fermentation occurred in the candies inoculated with *B. welchii* or in the controls (Table I).

In the same connection Colson† used *B. welchii* (No. HL), *B. sporogenes*, an unidentified diplococcus, and another anaerobe from commercial cream centers.

Five creams were made in these experiments.

No. 1, 5 parts of sugar and 1 part of glucose were brought to a temperature of 114° C. (237° F.) for hand-rolled creams.

No. 2, the same proportions of ingredients were cooked to 117° C. (243° F.) for hand-rolled creams.

No. 3, 4 parts of sugar and 1 part of glucose were brought to a temperature of 114° C. (237° F.), the batch being cast at 60° C. (140° F.).

No. 4, 4 parts of sugar and 1 part of glucose were brought to a temperature of 117° C. (243° F.) and the batch was cast at 68° C. (154° F.).

No. 5, 5 parts of sugar and 1 part of glucose were brought to a temperature of 115° C. (239° F.) and a "bob" was composed of 5 parts of sugar and 1 part of glucose brought to a temperature of 110° C. (230° F.). The cream in No. 5 was composed of 5 parts of the fondant base to which were added 4.6 parts of "bob." The two batches were remelted together and cast at 62° C. (144° F.).

Ten per cent of marshmallow whip was included in each of these creams. No "exploded" candy was obtained from these experiments, even

†H. C. Colson, Jr., formerly with the Bureau of Chemistry.

Table I—Results of Inoculating Bacteria into Five Creams

Organism	Pieces	Burst	Sound
		Per cent	Per cent
B. welchii No. HL	58	0	100
B. sporogenes[a]	58	0	100
Diplococcus[a]	58	0	100
Unknown anaerobe[a]	58	0	100
Control[a]	58	0	100
B. welchii (two strains)[b]	80	0	100
Control[b]	40	0	100

[a] Colson's experiments.
[b] Church's experiments.

after a very long period of storage (Table I).

The possibility of sugar tolerance being proved for the best-known spore-forming anaerobes in these media will not be discussed here, except to say that no investigators up to the present have published evidence of such tolerance and that no controls in the present experiments burst, in spite of the spore-forming anaerobes included with the marshmallow whip and molding starch.

Cultural Examination

Cultural examination of each commercial sample of "burst" chocolate creams received revealed the presence of large numbers of highly sugar-tolerant yeasts. The method of microscopic examination used revealed the presence of yeasts in significant numbers in all samples of "exploded" chocolate creams. These were either spore-forming yeasts or torula-like yeasts, or a mixture of both types. The sugar-tolerant yeasts in question can grow in comparatively high sugar concentrations, which suppress the activity of most other organisms.

Cream

A fondant base of 4 parts of sugar and 1 part of glucose, brought to 115° C. (239° F.) and a "bob" of 4 parts of sugar and 1 part of glucose, brought to 114.5° C. (238° F.) were made. The creams were composed of two equal parts of these batches and 10 per cent of marshmallow whip heated together at a range of temperatures, 62°, 70° and 80° C. (144°, 158° and 176° F.) recognized in confectionery manufacture as resulting in distinctive creams. For instance, it is reasonable to expect fewer microscopic sugar crystals to dissolve in a fondant heated (remelted) and cast at 144° F. than at 176° F. All crystals are not, however, dissolved at a remelt temperature of 176° F., for if this were so the cream as such would be destroyed. The syrup which surrounds the crystals of the cream has a correspondingly lower density with a 144° F. remelt than with a 176° F. remelt. On cooling, the excess of sugar in the supersaturated syrup gradually crystallizes.

Controls

Controls were made for each batch of fondant. No controls cracked or burst. Therefore, any discussion of the presence of sugar-tolerant bacteria is unnecessary here.

Inoculation

The method of inoculation employed excludes any contaminations in inoculated samples to which controls were not also subjected. Exposure to the air, occurring when the small holes were made, was negligible in comparison to that occurring during the casting of the cream.

From the results of preliminary experimentation it seemed best to inoculate each cream piece after casting with yeast cells from fresh agar slants. A very small hole, reaching to the center of each piece, was made with a sterile small penknife blade or scalpel. A loop of culture from an agar slant was introduced into the hole and the hole was closed compactly with fresh cream from the same batch. The pieces were then covered with chocolate in the usual manner.

The following yeasts were used for inoculation:

Zygosaccharomyces major, a strain of the salt-tolerant group of yeasts utilized in experimenting with culture control of the moromi fermentation of Japanese soy sauce;

A (large), a large yeast obtained from a refinery soft sugar, which had not proved sugar-tolerant in another group of experiments;

4708, a strain of torula-like (inclination to yoke forms in 80° C. remelt cream on drying out of the inoculated samples) yeast used by Owen in experiments on the cultural control of inversion in raw sugars;[13]

4766, obtained from a commercial sample of burst maple-walnut chocolate creams;

4717a, a torula-like yeast causing the spotting of refinery soft sugar (Figure 1);

4770, a yeast obtained from "exploded" chocolate creams (five flavors) put up by one manufacturer;

4740c and 4740p, obtained from cherry and pineapple pieces in a burst 5-pound Easter egg.

Table II—Correlation of Remelt Temperatures with Yeast Activity

Yeasts and Materials.[1]	144° F.—62° C. Remelt.			158° F.—70° C. Remelt.			176° F.—80° C. Remelt.		
	Number pieces inoculated	Burst.	Sound.	Number pieces inoculated.	Burst.	Sound.	Number pieces inoculated.	Burst.	Sound.
		Per cent.	Per cent.		Per cent.	Per cent.		Per cent.	Per cent.
4766	40[2,3]	100	0	22	66	34	21	53	47
4770	29	100	0	23	100	0	21	40	60
4740p	40[2]	100	0	22	100	0	24	21.5	78.5
4740c	30	100	0	22	85.5	14.5	24	12.5	87.5
4708	..	..	..	23	74	26	24	4	96
A (large)	..	..	..	22	0	100	..	..	..
Z. major	..	..	..	25	0	100	..	..	..
Control	12	0	100	24	0	100	15	0	100
Control	7	0	100	10	0	100	15	0	100
Used starch	35[4]	0	100	..	..	..	..	..	..
Used starch	30	0	100	..	..	..	..	..	..
Sterile cherry	19	0	100	..	..	..	..	..	..
Sterile pineapple	9	0	100	26	0	100	18	0	100

[1] The growth from 3 agar slants in test tubes 1.5 cm. in diameter was used to an average of 26 pieces—i. e., a loopful of culture to each piece.
[2] Three agar slants washed with 4 cc. tap water; added 3.5 cc. as inoculum before casting.
[3] Cast at 58° C. (136° F.) syrup oozing from cracks contained average of 82 per cent solids on day extruded.
[4] 3 grams added at 62° C. (144° F.) cast at 55.5° C. (132° F).

Storage and Examination

Experimental samples were stored at a temperature of 22 ± 4° C. (64 to 79° F.). Those pieces which showed no bulging or cracking after a suitable incubation period were finally submitted to higher temperatures, at least to 28° C. (82° F.), in order to note retarded fermentation. The records (Tables I, II and III, and Figure 2) are based on pieces held at the one range of temperature. Changes in the pieces of candy were recorded during the studies under the legends of bulging, cracked, cracked and oozing, and burst. Often when only oozing was evident it was necessary to wipe the syrup off the chocolate coating with a slightly damp soft towel in order to discover whether it came through a crack or through an imperfection in the coating. Many times in the 80° C. (176° F.) remelt pieces the crack could not be noted without a hand lens. As dipping was done with care for each piece, only a few leaks due to faulty dipping occurred. Such pieces were discarded and are not referred to in the tabulations.

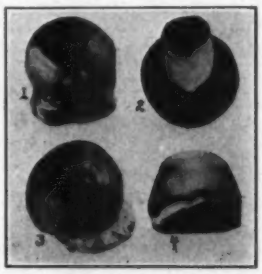

Figure 2 — Chocolate Creams Inoculated with Yeast in the Laboratory.
(1 and 3) Syrup exuding from cracks at bottom of candies; (2) plug of cream extruded from top of burst candy; (4) crack on side of candy, exposing cream.

All experimental samples were examined by the cultural and microscopical methods previously described. The yeasts introduced by inoculation were revealed by both of these methods, but no yeasts were found in the controls or in the pieces inoculated with materials free from yeasts. All pieces inoculated with yeasts of the greatest sugar tolerance exploded. None of those pieces inoculated with yeasts of very low sugar tolerance exploded and similarly those pieces of the 80° C. (176° F.) remelt type inoculated with yeasts of medium tolerance did not explode. None of the controls, whether or not subjected to the technic of inoculation, and none of the pieces inoculated with sterile fruit, molding starch and other similar materials free from sugar-tolerant yeasts, exploded. None of the pieces inoculated with bacteria burst or appeared altered by the treatment.

Growth in Syrup Portion of Cream

The syrup portion in the cast creams of these experiments had a solids content of 76.5 to 77 per cent, as established by refractometer readings on syrup expressed from the cream by a press devised in the Carbohydrate Laboratory. The solids content of the syrup portion of the cream of the "burst" commercial samples received ranged from about 70 to 77 per cent. Three yeasts were cultivated in hanging drops of syrup containing 70.2 per cent solids, the syrup being expressed from a cream having a high sugar content, 15 parts sucrose to 1 part invert sugar. The two sugar-tolerant strains (4740c and 4717a) grew at this density, but *A* (large) did not. These results correspond to the activity of these strains in the cream centers, *A* (large) not causing "bursting" or noticeable gas fermentation except at a temperature above 24° C. (75° F.) over a long period. Consequently actively fermenting creams represent generally pure cultures of yeasts which cause fermentation of high-density syrups. Such spoilage is plainly on the border-line of possible microbial growth and enzymic activity. This is illustrated by the observation that on the drying out of the syrup and cream of a cracked and oozing confection, cessation of noticeable fermentation results because of a slight increase in syrup concentration.

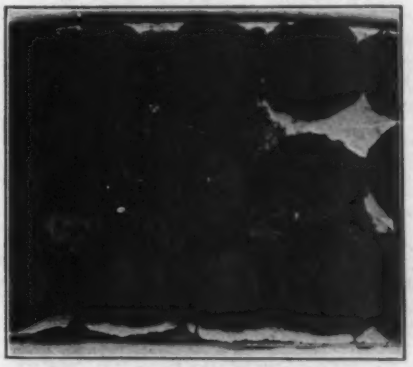

Figure 3—Commercial Sample of Burst Chocolate Creams

Yeasts and Sugar Crystals

Sometimes only one and sometimes more yeast cells to a crystal face of sugar were found in the cream centers examined. In spotted soft sugars and in raw sugars, faces of sugar crystals were observed supporting layer on layer of yeast cells.

Yeasts were seen on the faces of the microscopic sugar crystals in cocoanut, "golden cream," peppermint and vanilla butter-cream chocolate-coated candies.

In order to reproduce fermentation of chocolate-coated creams with highly sugar-tolerant yeasts as agents, 40 lots of chocolate-coated creams, including controls, were made. Most of the yeasts used were from commercial samples of fermented creams (Figure 3), as already described. Cultural and microscopic examinations checked exactly with the occurrence of fermentation and with the known abilities of the yeasts. The sugar-tolerant yeasts introduced were recovered in living condition from the inoculated candy after many weeks.

The results of inoculating creams with bacteria

Table III—Contamination Through Yeast-Infected Fruit Pieces and Fondant

Materials.	144° F.—62° C. Remelt.			158° F.—70° C. Remelt.			176° F.—80° C. Remelt.		
	Number pieces inoculated.	Burst.	Sound.	Number pieces inoculated.	Burst.	Sound.	Number pieces inoculated.	Burst.	Sound.
		Per cent.	Per cent.		Per cent.	Per cent.		Per cent.	Per cent.
Sterile cherry	19	0	100	..	..	..	..	..	..
Infected cherry	16	100	0	..	..	..	..	..	..
Sterile pineapple	9	0	100	26	0	100	18	0	100
Infected pineapple	7	100	0	33	100	0	33	94	6
Infected fondant	54	100	0	..	..	..	..	..	..

are summarized in Table I. Six lots of cream in the form of chocolate-coated centers were inoculated with two strains of *B. welchii*, *B. sporogenes*, an unknown anaerobe, and a species of diplococcus. The inoculated pieces and the controls remained unchanged. Tables II and III give the results obtained with yeast strains varying conspicuously in sugar tolerance and with control experiments. Inoculations with strains of yeasts other than those listed were made and corresponding results obtained. The composition of the creams was the same, but variation was obtained by altering the remelt temperature, 144°, 158° and 176° F. being selected. In Table II the order of the sample numbers (4766 through *Z. major*) follows the order of the sugar tolerance of the strains of yeasts used under the conditions of these experiments, 4766 being the most active strain in the bursting of confections and in test-tube cultures. These numbers are followed by the controls and the list of uncontaminated substances used as inoculum.

An increase in the number of sound pieces occurs with (*a*) the use of the yeast strains of lower sugar tolerance and (*b*) the increase in the remelt temperature. The comparative results of making fruit centers with sterile and with yeast-contaminated fruit pieces are shown in Table III. Experience in the laboratory and factory has plainly indicated that the manufacturer may expect as high as 100 per cent of bursting in fruit centers or cordials where contamination with sugar-tolerant yeasts exists.

Summary

All the evidence presented here points to the conclusion that yeasts tolerant of high percentages of sugar in syrup are capable of causing bursting in chocolate-coated creams, and that the bursting is primarily due to the forming of minute quantities of gas in the cream through microbial activity.

The yeasts obtained from burst commercially manufactured confections and utilized in these conclusive experiments were of various types. While certain ones would be termed "torulae" when grown on the usual culture media, their growth in sugar media and in fondant resulted in spore formation or, at least, in a tendency to yoke formation in all but one yeast (4717a) from spotted soft sugar.

The presence in chocolate-coated creams of yeasts active in fermenting sugar solutions indicates that some means must be devised in candy factories to develop a cream containing syrup of high density.[14, 15, 16] Such a cream may be made by the use of a high proportion of glucose and invert sugar syrup, or by the addition of invertase, wherever such an adjustment does not materially alter the qualities desired. The development of specific means to prevent the loss to confectioners through bursting will be presented in a later article. The sanitary conditions of the factory[2, 12, 19] and the soundness of ingredients, such as fruit pieces, should also be considered by the manufacturer. Otherwise, the bursting of chocolate-coated cream candies, now causing a large annual loss to the confectionery industry, both retail and wholesale, will continue as it is today, an always present problem.

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Pointers on Purchase of Vanilla Beans

by
A. Adams Lund

This series started in September issue with an article entitled "From Montezuma to the Modern Confectionery Factory."

Age-Long French Control Based on Crop Fnancing

SINCE the middle of the nineteenth century the Bourbon Islands have beckoned at the end of the last long Odyssey of the French Colonial. To these God-forsaken islands — sunstruck, windswept and deluged—thirty days or more from France, generations have fled to escape their poverty and themselves Here they might carve out, health and courage permitting, an old-time story-book "comeback."

For three-quarters of a century, therefore, these Colonials have produced practically the entire crop of Bourbon vanilla, now amounting to over a million pounds annually. Being poor, they found it necessary to obtain advances from dealers and commission merchants in France to help defray the expenses of cultivation and cure. In return for these loans, the growing crops were bound over to the dealers to be shipped to Marseilles. This method of financing has been the backbone of the French control.

American Participation Results in Struggle for Control

The intrusion of American dealer interests into the market which the French had long regarded as sacred to themselves, contained the germ of the disastrous struggle which we have witnessed during the past few years. The pace was fast and merry. The dealers' ranks thinned down to two large competing factors, one in New York, the other in Marseilles. So far as this article is concerned, the rest would be mere history were it not for one pertinent fact—when speculative interests compete for the control of a commodity, the natural laws of supply and demand in that commodity are apt to be temporarily suspended.

If we glance back over the crop outturns of the last few years we will find, not one, but several instances where vanilla prices have gone up in the face of substantial increases in production. Consequently, although the market must respond ultimately to fluctuations in production and consumption, it would be hazardous to base one's buying policy upon a mere matter-of-fact perusal of these statistics. Our judgment might be entirely correct on the long pull but we might sink a small fortune on the next turn. Are we to assume, then, that it is impossible to formulate any general rules which might serve as guideposts in determining our future buying policy?

If we discount liberally the speculative features of the vanilla market, and it may be seriously doubted whether the chastened dealers will go in for this ruinous pastime for some little time to come, we discover a number of economic conditions and relationships which yield to analysis and tell us the proper time to buy.

Trend of Prices in the Islands

The first sales made in the Islands are usually the lowest of the season. Planters in distressed circumstances rush their goods through the curing process and dispose of them as quickly as possible in order to obtain cash. With these parcels once out of the way, those who are more comfortably fixed hold for higher prices. The passage of stocks from first to second hands and from second to third hands sees a gradual enhancement in values. By the time these stocks find their way into the storerooms of the few strong dealers financially able to carry the investment, their actual cost is very much higher than it was, a while back, in the Islands.

The Effect of Seasonal Arrivals

Similarly, when the heaviest arrivals pour into our domestic market from February until June, numbers of smaller dealers jump in and create for the time being, a certain amount of real competition. Unable to withstand the terrific carrying and shrinkage charges, however, these small fry must unload at the first sign of momentary weakness in the market. Here is the manufacturer's opportunity to pick up bargains.

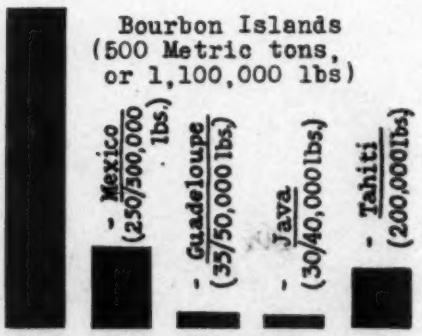
Whatever may be the prevailing price range for a given crop, whether it be inflated or depressed by the speculative influences just mentioned, the high and low prices recorded for that crop are largely determined by the volume of shipments arriving into this country and the ability of the manufacturers or the dealers to absorb them. Therefore some consideration of harvest seasons and the periods of heaviest arrivals is in order at this time.

Periods of Harvest and Shipment

The flowering season in the Bourbon Islands varies from November to June according to climatic conditions. The green pods are harvested six to nine months after fertilization. Curing requires another month to eight weeks, this also depending upon weather conditions. Another month or two is consumed in getting the goods to Marseilles, with the result that first arrivals of the Bourbon crop commence to pour into France during late October and November.

These first shipments are from the Comoro Islands where the harvest season is fully two months ahead of Madagascar. The crop movement becomes substantially heavier as we get along in the season and hear from Nossi-Be Islands, East Coast Districts, Madagascar and Reunion. The arrivals into France usually finish up by May, the bulk of them having come in during March and April.

COMPARATIVE SIZES OF VANILLA CROPS



Arrivals in the New York Market

As it takes from one to three weeks longer to get these goods to America, we must allow a good two months on the average to get vanilla beans from the Islands here. The accompanying chart shows the periods of heaviest arrivals into this country.

During January, February and March stocks of old crop vanilla are light and prices usually high. Increasingly heavy arrivals during the latter part of this period gradually catch up on the early demands from manufacturers and the surplus begins to pile up in dealers' storehouses, creating pressure to sell during the ensuing months, March, April and May. Naturally, any impressive carryover of old crop tends further to keep buying operations within bounds.

The traditional procedure of "going it on the blind," which is to say, contracting with some large dealer during October and November, before the commencement of the real buying season, cannot be too strongly discouraged. It provides him with a weapon for bidding the market up and shuts the door to competition at a time when it is sorely needed.

Barring cyclones, sharp reactions in foreign exchange or untoward developments in the political situation, the best time of the year to contract on Bourbon vanilla beans should fall somewhere between March and May.

The Mexican Harvest and Shipping Seasons

Except for responding in a general way to the major price movements of the dominant world crop (Bourbon), the Mexican vanilla bean market presents an entirely different aspect.

In the first place, the Mexican crop comes directly to New York. There are no intermediaries to be reckoned with, as in the case of Bourbons. Consumption is confined to a few large houses whose buyers are well posted on market conditions. (It is practically impossible for the Bourbon buyer to keep adequately posted because of the many circuitous channels through which the information must come and the custom of coloring it before it reaches him.)

Because of the close proximity of Mexico to the United States, quotations and sales in Mexico are immediately reflected

in the New York market. In consequence, the lowest prices of the year are ordinarily recorded when the buying is being done in Mexico, or about a month before the goods arrive in New York.

The Mexican crop is gathered and cured from November to February. The cuts, comprising the windfalls which are not adapted for bundling, begin to arrive during December and January, and as the market is rarely able to absorb these importations immediately, prices are usually depressed during this period. Buyers seldom go wrong in covering their requirements at this time.

Arrivals of whole beans commence in the spring and finish up by fall. The earlier offerings, during April and May, comprise the lower grades which require less time and attention in curing. The heaviest arrivals of the Mexican crop come in during May, June and July, smaller quantities of the upper end (good to prime) continuing to trickle in up until September and October. In the case of each of these qualities, prices are usually lowest when the larger blocks are moving out of Gutierrez Zamora.

Of course, Mexico with her almost hourly revolutions and fluctuating pesos will continue to offer problems all her own. Of late years there has hardly been a time when some unusual influence has not disturbed both markets and upset all the rules and statistics. Yet to say that there are no deep-rooted courses which the vanilla markets will pursue under normal, competitive conditions, would be a gross untruth. Lacking more brilliant suggestions, we will have to get along with a few of these principles as best we can. Vanilla prices have returned to normal and competition is keen for the first time in many years; let's see if by sane buying we cannot keep them that way.

The wide-awake buyer "tunes in" on his crop seasons in determining the right time to buy. The solid portions indicate the periods of heaviest arrivals.

THE ADVIEWER

Casual Comments on Current Candy Advertising

NO SIXTH sense or acute power of analysis is required on the part of anyone at all familiar with sales to realize sharply that many candy manufacturers operate on a basis of hunches rather than thoughtfully laid plans in disposing of their products.

For a time the candy industry, like many another, seemed interested in nothing so much as increasing the volume of sales. Today had to surpass yesterday. This week had to be ahead of last week. When one month did not show a sizeable gain over the corresponding month of the preceding year everything connected with the then present situation was "viewed with alarm."

The Adviewer submits that after all the primary purpose of business is not to break either production or sales records each day, week or month for the rather empty satisfaction of breaking records. Its purpose is, and probably will continue to be, since human nature does not change much, to make a decent and reasonable profit. And it is to insure the making of decent, reasonable profits that manufacturers, who are in business to stay, advertise, not according to hunches, but plans that reckon with almost every possible contingency.

Advertising does not take the place of salesmen. The manufacturer who thinks it does is unconsciously reaching for the red ink. Advertising cannot make a profitable item out of the item that isn't good enough to earn a profit, in a small way at least, without advertising. Advertising won't improve a product, although many a manufacturer has had to improve his merchandise to make it live up to the claims of his advertising. In figuring how much he should spend for advertising the manufacturing confectioner cannot go far wrong if he asks himself, "How far will advertising actually go toward selling my products? What will be advertising's influence on the final sale?"

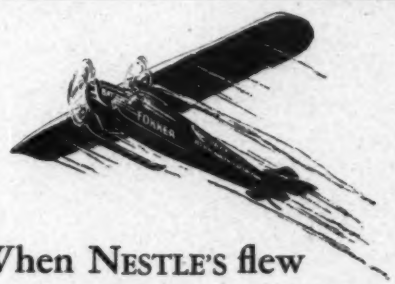
The sales cost may well be taken in the

first place as a single item. Then this should be divided into the sales department expense and advertising expense, considering just what the salesmen and the advertising must do in order for the business to operate at a profit. Where the retailer must be taught somehow to sell and sell hard the sales department must be kept in the spotlight in making up the budget. Where it is a matter of getting the consumer to ask for a certain kind of candy or inducing him to buy when he sees it displayed, the advertising appropriation must not be slighted. Perhaps there was never a better time for a manufacturer to pry into his sales costs than now when the National Confectioners' Association campaign is just beginning to hit its stride. Few individuals could afford to spend anything like what the Association is spending. But almost every manufacturer can find some way of tying up to this educational advertising. In fact, tying up to this big campaign with his own advertising is

about the only way the individual manufacturer can make it profit him by reducing his selling costs.

Why Nestlé's Repeats

ADVERTISING like this in a good-size list of newspapers plus inherent merit in the merchandise itself is the reason why Nestlé's Milk Chocolate has established itself in a fairly short time. Here are: (1) motion in the illustration; (2) real news interest in the headline; and (3) brevity and reasons why Nestlé's is worth buying in the copy itself. The job of putting these three factors together is done so well that the advertisement is not buried even on a newspaper page crowded with advertisers all asking for the reader's attention. In practically every city where the company has introduced this bar chocolate and backed it with newspaper advertising it has become a good repeater and a staple on candy counters. Capitalizing on news events is one of the best ways of avoiding competitive claims and extravagant statements in advertisements. Nestlé used the North Pole flight, although it is no longer strictly news, as a means of verifying or proving the value of chocolate as a nourishing food.



When NESTLE'S flew to the North Pole

Suddenly the world was amazed! An airplane had reached the North Pole.

On board, as part of the emergency ration, and vital in case of a forced landing, was Nestlé's Milk Chocolate. And even when it was necessary to lighten the cargo, to discard every needless ounce, Nestlé's was retained.

Nestlé's Milk Chocolate is so rich in concentrated energy, so nourishing and appetizing, that the commander of the Byrd Arctic Expedition considered it a necessity.

NESTLÉ'S MILK CHOCOLATE

Richest in Cream!

New and No Mistaking That

HOW long it would have taken the Williamson Candy Company to put over the news without advertising that it had decided to change the shape of Oh Henry! and give that famous bar a new wrapper is hardly worth speculating about. Magazines and posters told the consumer about it. But that was only part of the job. The work of telling the trade about it was done in just as craftsmanlike manner, as evidenced by the accompanying trade paper copy. Proving that the seasoned advertiser will not be satisfied with advertisements in trade papers unless they hit as hard and as clean as those designed for the ultimate buyer. It would be hard to find a piece of copy that tells its story with more smash than this, so effective are the contrast and the emphasis gained through the use of hand lettering. If color had been employed the picture of Oh Henry! in the new wrapper would have been complete, although the indigestible brown and rather unappetizing green of the new wrapper do not make completeness any particular virtue in this case.

"Absolute Knockout!"
That's what the trade is saying about the
new
New MILK NUT
Oh Henry!
TRADE MARK REG
THE new shape, new size, new quality, make OH HENRY! more than ever the world's greatest candy value!
And now, in the rich, new brown, gold and green wrap, it looks it!
Can your trade sell a ten cent bar? When you see the new OH HENRY! you'll say they can!
WILLIAMSON CANDY COMPANY
CHICAGO OAKLAND BROOKLYN

Back with a Bang

NO DOUBT a good many folks still think of Eskimo Pie as a ninety-day wonder that flared up like one of those Fourth of July rockets and then flickered out. This year the company is advertising primarily to establish the fact that it is still in business and going stronger than ever. This color page is one of many planned for *Liberty* this year to keep Young America thinking about Eskimo Pie and hungry for it whenever there's an empty space south of the tonsils. From headlines to name plate it's a hundred and one per cent slangy, boyish, hunger-stimulating advertising, although there's a paragraph or two directed to ice cream manufacturers and dealers anent franchises. It will pay candy manufacturers to study the headlines that appear on each of the pages making up this campaign as examples of

"Wish I was a giraffe when I eat Eskimo Pie!"
ESKIMO PIE
Eat Ice Cream for Health
ESKIMO PIE
Over two hundred million sold yearly

the natural, unstilted, enthusiastic approach. Sometimes logic won't sell half as forcefully as atmosphere, and boy atmosphere plus is what the Eskimo Pie people are putting into this come-back advertising. The art work is commanding enough to get attention no matter how advertisers on the adjacent pages flaunt their colors. Mighty few people will be ignorant of the fact that the company is back on the map in capital letters, once this campaign gets under way.

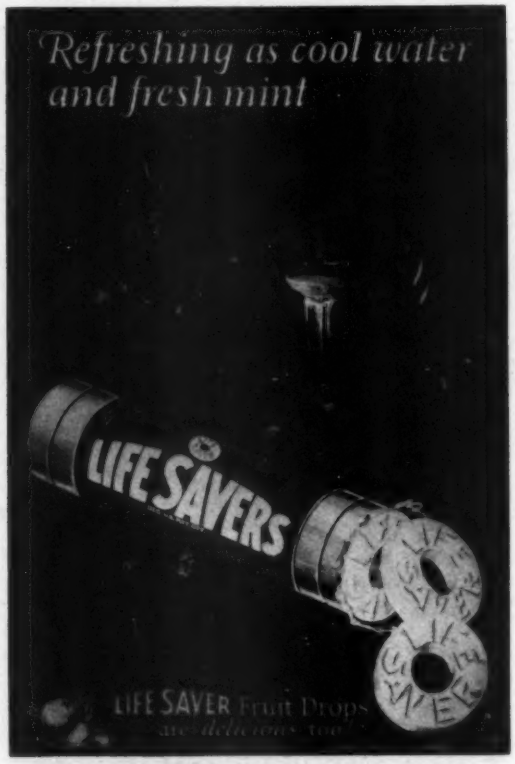
One Picture Is Worth—

SO-CALLED reason why copy can be and is written around the various "Life Saver" products, but in the campaign from which this piece of copy is taken the illustration tells the whole story. It is doubtful if words could tell it as well. Inexperienced advertisers and golfers who never shoot under 110 have one thing in common—they press their shots to the detriment of their game. Life Savers shows here how effective, how suggestive of excellence in the product restraint can be. "Refreshing as cool water and fresh mint" is precisely the thought that the unusually striking illustration has already put in the reader's mind at a single glance before he has had time to read the copy. To say more would be superfluous.

Taking them by and large, advertisers and publishers nowadays seem to prefer blondes to the darker, solid-color pieces of copy obtained from using reverse plates. For that reason these Life Saver pages with their brunette background stand out prominently in the publications where they appear. Then again there is the contrast between the product itself and the background, to be listed as an asset.

The Adviewer distinctly remembers of shivering at this same piece of copy when it appeared in a Chicago street car one dark stormy night last January during the zero weather week—'twas about 4° above outside—and naturally this refreshing, cool copy didn't register any desire for that kind of a life saver right then, however, this display was none the less impressive.

When a product has been on the market as long as Life Savers and is as widely distributed, the



question as to what kind of advertising is best suited to help sales is sometimes difficult to answer. Here is one answer to question "How can we remind 'em and keep 'em buying?"

White Space That Loafs

SOME years ago an advertising man who still produces some of the best advertising appearing anywhere said, "It's not the amount of space you buy but how you use what you buy that counts." That is as true today as it ever was. Ordinary or mediocre copy in large space will rarely equal good copy in smaller space. Here is an advertiser using full page space in *Confectioners' Journal* and wasting a good part of it. On the plus side of the ledger he gets name publicity for himself and his trade-mark. On the minus side he must enter the fact that he has failed to supply a single reason why his line of warm-weather specialties will stimulate spring and summer sales. That is, he has given no answer to the inquisitive jobber's or retailer's inevitable, "Why?" There must be several good reasons why "The Best" warm-weather special-

April, 1927 CONFECTIONERS JOURNAL

STIMULATE

your

SPRING

and

SUMMER

SALES

by featuring

"THE BEST"

(Trade Mark Reg. U. S. Pat. Off.)

WARM-WEATHER

SPECIALTIES

PH. WUNDERLE, 118-132 Pegg Street, Philadelphia, Pa.

ties will put action into spring and summer sales and there must be hundreds of jobbers and retailers ignorant of them who would like to know what they are. Why not tell them?

Ask Me a Hard One

"HOW can you tell whether it's a chocolate caramel or peanut butter and molasses?" one girl asks another as the cards are being dealt.

"By the markings on top," her partner replies. "Haven't you learned yet what those little scrolls mean on Maillard's? One spade. Every one of those little whirligigs tells what's inside. That loop that looks like a shamrock means a mint jelly marshmallow. That heart-shaped scroll is a raspberry fruit cream."

"Well, of all things. My bid? Pass."

"While you're dummy, just look this chart over, Ruth. It tells you how to recognize every piece in the box. Now don't pick out all the coffee filberts while I'm playing this."

One of the real innovations of candy merchandising is the inclusion in each box of Maillard's of a diagram which shows the consumer how to identify each individual piece by the marking on top. Thus, something that the candy maker has known all along is passed along to the purchaser as useful aid to making candy eating more enjoyable. In Maillard's newspaper advertising, too, this identification system is being capitalized on. The accompanying piece of copy shows how the company is getting a new degree of reader interest with small space. Some folks don't like anything but fruit or nut centers. Others prefer creams. Maillard is telling them all how to be sure of getting just what they prefer without any experimental nibbles. In looking over the copy reproduced here, don't forget to note the border down the right hand edge. It gives an air of distinction and keeps a small advertisement from being lost on a big newspaper page.

MAILLARD'S
Chocolate-Covered Stuffed Prune

WHENEVER you see this scroll design on a Maillard chocolate of this shape you will know that it contains a tender, fruity prune from the beautiful Santa Clara Valley in California.

Each prune is stuffed with crunchy chunks of delicious French walnuts—the finest in the world—and covered with the rich, smooth chocolate made by a special recipe known only to Maillard.

In all Maillard's assortments of deliciously good candies each variety of chocolate bears its own distinctive and recognizable mark.

At good stores

Maillard's

New York
Established 1848

Meet us at the Annual
EXPOSITION and CONVENTION
of the
NATIONAL CONFECTIONERS ASSOCIATION
at ATLANTIC CITY-May 23-28-1927
All under one roof — on the Steel Pier

Directory of Exhibitors
to the
Confectionery Manufacturing Trade

See Diagram of Floor Plan, Showing Location of All Exhibitors, Opposite Inside Front Cover

AMERICAN CAN COMPANY, 120 W. 42nd St., New York City. (Booth Nos. 99, 100, 112 and 113)—

Exhibiting tin candy containers in full assortment embracing all types of plain and decorated packages for all confectionery products and featuring highly decorated fancy boxes of latest design. In attendance: T. E. Alwyn, H. E. Dygert, Edmund Hoffman, Sr., Edmund Hoffman, Jr., John Jennings, C. E. McCleary and C. S. Stephens.

ANHEUSER BUSCH, INC., St. Louis, Mo. (Booth Nos. 150, 151)—

This company says: "We will have a beautiful booth with a lot of action." Corn syrup. (There's something in reserve here which will present a pleasant surprise. In attendance: Homer F. Ziegler, Frank J. Kiernan, Wm. Anderson and Frank X. Ragan.

ASSOCIATED WOODEN WARE MANUFACTURERS, Fitchburg, Mass. (Nos. 61, 62)—

Exhibiting wooden candy pails as used by leading manufacturers of bulk candy. In attendance: Geo. Butterfield, Secretary.

ATLANTIC GELATINE COMPANY, Woburn, Mass (Nos. 74, 75)—

Exhibiting Edible gelatine for use in candy manufacture such as marshmallow, jelly drops, orange slices, etc. In attendance: Joseph H. Cohen, Treasurer and General Manager; David C. Babcock, General Sales Manager; Wallace H. Jose and Adrian LeRoy.

BAKER PERKINS CO., INC., Saginaw, Mich. (Nos. 52, 53)—

Demonstrating Forgrove Foiling Machine No. 26 in operation foiling chocolate creams of various sizes and shapes, cherries, nougats, etc. Tin or aluminum-foil will be used at a speed of 60 per minute with one operator. Exhibiting samples of confectionery wrapped on the Forgrove Lolly-Pop, Twist Wrap Machine, Bar Wrap Machines, Bar Foiling Machines, High Speed Chocolate Neapolitan Machines and also machines for wrapping peppermints in tin-foil.

BENDIX PAPER COMPANY, 113 Fourth Avenue, New York City. (Nos. 76, 77)—

Exhibiting box labels and designs, gold seals, Watoline padding, Bendifane and other paper specialties. In attendance: P. R. Bendix, R. L. Magaw and R. H. Harding.

BENTZ ENGINEERING CORP., Newark, N. J. (No. 47)—

Exhibiting working model of the "Chilliblast" air conditioner, cooler and dehumidifier; the "Coldbed" chocolate cooling and packing table. In attendance: Harry Bentz, President; Stuart Bentz and A. G. Luders, Vice-Presidents; V. Cano, Chief Engineer; W. E. Lowell, Western Manager.

BERKS ENGR. CO., Reading, Pa. (No. 155)—

Exhibiting the Berks batch mixing machine, for mixing color and flavor in all kinds of solid, hard candies, such as cough drops, fruit drops, suckers, lollypops, etc. In attendance: A. N. Bodey.

BETTS PRODUCTS CO., 321 W. Austin Avenue, Chicago, Ill. (No. 124)—

BLANKE BAER EXTRACT AND PRESERVING CO., St. Louis Mo. (No. 79)—

In attendance: Dr. S. H. Baer, James O'Connor, L. T. Skidmore and J. S. May.

M. A. BROWN PAPER BOX CO., 410 N. 23rd Street, St. Louis, Mo. (Nos. 121, 122, 123)—

Exhibiting fancy candy boxes. In attendance: J. W. Barrett, A. P. Jacobson and Fred E. S'Renco.

THE BRUNHOFF MFG. CO., CINCINNATI, OHIO. (No. 144)—

Exhibiting "point of purchase" display fixtures, box covers, pail covers, show cases, rotary and stationary displays for counter and window, glass signs, electric signs, dispensers, candy molds, etc. In attendance: H. E. Brunhoff, Sales Manager; W. S. Lakamp, Manager, and C. E. Karst, Superintendent.

CARRIER ENGINEERING CORP., Newark, N. J. (No. 23)—

Air conditioning and refrigeration equipment and methods will be described and illustrated. A novel animated picture of a starch dryer. In attendance: W. A. Bornemann and D. C. Lindsay.

B. H. BUNN COMPANY, 7329 Vincennes Avenue, Chicago, Ill. (No. 106)—

Exhibiting Bunn package tying machines. In attendance: H. E. Bunn.

CANDY & CHOCOLATE EQUIPMENT CO., INC., 139-141 Charles Street, New York, N. Y. (No. 143)—

Exhibiting Gaebel plastic automatic system, Sirocco cocoa bean roaster and cleaner, Petzholdt rotation conge and Anderson cocoa bean expeller. In attendance: Alex Hart, Jr., and John Sheffman.

CLINTON CORN SYRUP REFINING COMPANY, Clinton, Iowa. (No. 66)—

Exhibiting samples only of "Clinton" confectioners' corn syrup and starches. In attendance: W. R. Smith, General Manager; A. P. Bryant, and G. E. Corson.

EDWARD E. COX PTG. CO., Hartford City, Ind. (No. 147)—

Exhibiting printed "Glassine" wrappers. In attendance: Edward E. Cox, Jack Dolan and H. Warrendorf.

CRESCENT MANUFACTURING COMPANY, Seattle, Wash. (No. 58)—

Exhibiting "Mapleine." In attendance: Bruce Hartman of the Crescent New York office will be in charge, assisted by E. G. Hamel of Chicago, G. N. Mindling of Pittsburgh, F. B. Honywill of Boston, W. C. Lawson of Baltimore, W. M. Booth of Minneapolis and T. J. Flach, also of the New York office.

CRYSTAL GELATINE CO., Boston, Mass. (64)

Exhibiting confectionery products made with crystal gelatine. In attendance: G. W. Gethro, G. W. Arthur, H. G. Mitchell and Frank Kirby.

DAYTON SPECIALTY MACHINE CO., Dayton, Ohio. (No. 139)—

Exhibiting F. & B. cream beater. In attendance: Fred J. Blesi.

DELINE MFG. CO., Denver, Colo. (Nos. 56, 57)—

Exhibiting fancy paper, silk and leather boxes. Will show about 400 different boxes in all sizes. In attendance: I. A. Deline, President, and J. E. Davis, Salesman.

DONALD F. DUNCAN, INC., 165 N. Elizabeth Street, Chicago, Ill. (No. 159)—

THOMAS W. DUNN COMPANY, 546 Greenwich Street, New York, N. Y. (No. 68)—

Exhibiting all grades of gelatine, especially produced for the candy and ice cream industries. In attendance: F. E. Hollweg, C. McCormick, W. Stetter, H. C. Merle and H. F. Koop.

DU PONT CELLOPHANE CO., 40 W. 40th Street, New York City. (No. 71)—

ELDER & ROBINSON CO., 5711 W. Chicago Avenue, Chicago, Ill. (No. 134)—

Exhibiting E. & R. automatic plastic candy maker, a continuous motion high speed machine for forming plastic candy and other kinds of hard candy. In attendance: Earl B. Elder.

EPPELSHEIMER & CO., 34 Hubert Street, New York, N. Y. (No. 60)—

Exhibiting chocolate molds of every size and description. In attendance: W. H. Warren, H. A. Shera and W. J. Purala.

ESSEX GELATINE CO., 40 N. Market Street, Boston, Mass. (Nos. 81, 82)—

Exhibiting edible gelatine, jelly candies, marshmallows, candy research results. In attendance: L. B. Esmond, General Manager; Dr. W. W. Duecker, Research Chemist; Stanley Caslar; R. E. MacFarland, F. E. Poulterer and H. K. Beiser.

FERGUSON & HAAS, INC., 515 Greenwich Street, New York, N. Y. (No. 105)—

Exhibiting and demonstrating a new type wrapping machine, arranged to wrap irregular shaped bars with printed glassine or printed foil wrappers, fed from stacks of cut sheets. In attendance: Edward Haas, M. B. Ferguson and A. B. Hull.

FINNELL SYSTEM, INC., Hannibal, Mo. (65)

Exhibiting electric floor scrubbing, waxing and polishing machines, mop trucks, mopping machines and water absorbers. In attendance: J. H. Lindstrom, Eastern Division Manager, New York; H. S. Jones, and E. C. Aylor of Philadelphia office.

THE FLEISCHMANN TRANSPORTATION CO., 699 Washington Street, New York, N. Y. (No. 111)—

FOOTE & JENKS, Jackson, Mich. (No. 114)—

Exhibiting flavors and flavor concentrates, specially built for the candy industry. In attendance: T. J. Torjusen, Eastern Representative; C. R. Foster, Vice-President, and C. H. Redding, Secretary.

HARRY L. FRIEND, 152 Milk Street, Boston, Mass. (Nos. 135, 136)—

Exhibiting three new models Friend plastic center machines, including "Dreadnaught" model for deposits on plaques that are directly transferable to belt of any dipping machine.

FRIGIDAIRE CORPORATION, Dayton, Ohio. (Nos. 145, 146)—

Exhibiting a Frigidaire equipped confectionery display case, a Frigidaire electric water cooler, a Frigidaire ice-maker cabinet and a large model household Frigidaire. In attendance: W. H. Mendham of the Commercial Sales Division.

H. GAMSE & BRO., INC., Gamse Building, Baltimore, Md. (No. 59)—

Exhibiting lithographed candy wraps, box tops, advertising material. In attendance: Norman Loewenberg and Herman Gamse.

GENERAL ELECTRIC CO., Schenectady, N. Y. (Nos. 3, 4)—

Exhibiting G E. Motors and Control, featuring the new S. C. R. motor. In attendance: T. H. Reeves, J. Curtin, J. G. Boers, C. G. Raymond and J. H. Joyce.

L. F. GRAMMES & SONS, INC., Allentown, Pa. (No. 103)—

Displaying Etch Art Brass Chests in jewel cigar, cigarette and trinket styles. In attendance: M. M. Gottlieb.

J. W. GREER CO., 119-137 Windsor Street, Cambridge, Mass. (Nos. 23, 29, 30)—

Exhibiting 24-inch automatic feeder coating machine and a new style automatic plaque transfer cooling machine (shown for first time). In attendance: Mr. and Mrs. J. W. Greer, Mr. and Mrs. Fred W. Greer and Alfred Martini.

HAUG & CO., 370 Seventh Avenue, New York City (No. 25)—
Exhibiting Haehnlen's Chocolate Hardener and imported Dutch Process Whole Milk. In attendance: George Haug, Louis Price, Robert G. Moench and Karl Charles.

HAZEL ATLAS GLASS CO., Wheeling, W. Va. (No. 98)—
Exhibiting glass containers for confectionery.

IRA L. HENRY CO., Watertown, Wis. (72)—
Exhibiting display of fancy boxes. In attendance: N. T. Yeomans.

HEYWOOD, STRASSER & VEIGHT LITHOGRAPHING CO., 26 W. Ninth Avenue, New York, N. Y. (No. 31)—
Exhibiting fancy box papers.

H. L. HILDRETH CO., 549 Albany Street, Boston, Mass. (No. 2)—
Exhibiting Hildreth Pioneer candy pulling machines and Hildreth's Original and Only Velvet Molasses candy. In attendance: Herbert A. Hildreth, President, and Herbert A. Hildreth, Jr., Assistant Treasurer.

HOBART MFG. CO., Troy, Ohio. (No. 5)—

A. HUHN MANUFACTURING CO., Minneapolis, Minn. (Nos. 32, 33)—
Exhibiting Type D-5 starch dryer. In attendance: Alex G. Huhn, President; A. W. Patzlaff, Chicago Representative.

HY-SIL MANUFACTURING CO., Revere, Mass. (No. 129)—
Exhibiting ribbons, tinsel ribbons and tinsel cords. In attendance: Harry Hyman, Morris Silverman and Eli Hyman.

IDEAL COCOA & CHOCOLATE COMPANY, Lititz, Pa. (No. 55)—
Exhibiting Ideal Chocolate Coatings, Ideal Chocolate Liquors and Ideal Cocoa. In attendance: J. F. Cyphers, T. Waddell and G. D. Bitzer.

KAY-WHITE PRODUCTS CO., 8 W. Broadway, New York, N. Y. (No. 92)—

KELLER-DORIAN PAPER CO., 110 Fifth Avenue, New York, N. Y. (No. 107)—
Exhibiting: Fancy box papers.

KNICKERBOCKER CASE COMPANY, 226-230 N. Clinton Street, Chicago, Ill. (No. 69)—
Exhibiting latest improved salesmen's sample cases. In attendance: R. S. Thompson.

H. KOHNSTAMM & CO., 11 E. Illinois Street, Chicago, Ill. (Nos. 67, 80)—
Exhibiting Atlas Certified Pure Food Colors and Flavors.

FRED LAUER, 3512 Carroll Ave., Chicago (83)
Exhibiting miniature cedar chests and novelty containers. Featuring a package in the form of a book made up in cedar, a new sensation in the novelty package line. In attendance: Mr. Fred Lauer.

S. & N. LEAVY, 5-7-9 Union Square, New York, N. Y. (No. 149½)—
Exhibiting combination novelty gift boxes. In attendance: Samuel Leavy and A. H. Leavy.

LEHMAIER SCHWARTZ & CO., 511 25th Street, New York, N. Y. (No. 138)—

J. M. LEHMANN CO., INC., 350 West Broadway, New York City (No. 156)—
Exhibiting Chocolate Moulds by T. C. Weygandt Co. In attendance: Oscar Haas for T. C. Weygandt Co., and Emil Ranc for J. M. Lehmann Co., Inc.

MASON BOX CO., Attleboro Falls, Mass. (No. 148)—
Exhibiting boxes.

McGRAW BOX CO., McGraw, N. Y. (No. 90)—

MERROW BROTHERS, INC., 117 Atkinson Street, Boston, Mass. (No. 140)—
Exhibiting Cut-Rol Center Maker. In attendance: Ernest F. Merrow and Harold K. Merrow.

THOS. MILLS & BRO., INC., 1301-15 N. Eighth Street, Philadelphia, Pa. (Nos. 44, 45)—
Exhibiting 100 lb. capacity Chocolate Melter, electrically heated and agitated. Compact continuous hard candy cutter, motor driven. Motor driven attachment for small machines, such as fruit drop frame, kiss cutter, etc.; improved motor driven straw cutter with sizer; improved motor driven Monitor nougat cutter; improved automatic seamless hard candy machine; electric batch warmer, electric cream pot, electric chocolate warmer and other confectioners' equipment. In attendance: Geo. M. Mills, G. Thos. Mills, John G. Mills and Wm. Cranston.

MOGI, MOMONOI & CO., INC., 105 E. 16th Street, New York, N. Y. (Nos. 108, 109)—
Exhibiting imported Japanese containers, such as hand decorated lacquered boxes, fancy baskets, gold and silver plated metal boxes, unique chinaware, etc. In attendance: Jack Blaustein, Y. Takahashi.

NATIONAL ANILINE & CHEMICAL CO., INC., 40 Rector Street, New York, N. Y. (Nos. 96, 97)—
Exihibit in charge of Dr. L. J. Matas. Exhibiting National Certified Food Colors and featuring a display of confectionery colored with National Certified Food Colors. Others in attendance: Dr. F. E. Beecher, E. Weber, Frank W. Green, Harry Roebke, George Magee, C. L. Blakely.

NATIONAL BUNDLE TYER CO., Blissfield, Mich. (No. 48)—
Demonstrating their new model bundle and package tyer.

NATIONAL EQUIPMENT COMPANY, Springfield, Mass. (Nos. 24, 25, 26, 37, 38, 39)—
Exhibiting 24-inch Springfield coater, 24-inch Enrober with bottoming attachment, continuous chocolate circulating system, temperature control and automatic feeder. Cherry dropper connected with depositor, 300-lb new style melting kettle, 500-lb temperature control kettle, Bunker type cold box, Standard Springfield cooler and packer. In attendance: Frank H. Page, George A. Bausman, A. L. Bausman, Kenneth B. Page, Burrough E. C. Gillette, Howard C. Baum, Will D. Slagle, William G. Tucker, Chalmers B. Turner, Ralph Duchacek, Frank S. Moulton.

NATIONAL TINSEL MFG. CO., Manitowoc, Wis. (No. 137)—
Exhibiting tinsel cords, tinsel metal ribbons, combination ribbons, novelty ribbons. In attendance: Mr. C. A. Kohl.

First Producers of Certified Colors

ATLAS CERTIFIED COLORS — scientifically prepared to meet the needs of the highest type of confectioners and for every purpose in the confectionery industry — particularly for plastic and clear hard candy work.

Uniformity

Purity

Strength

Solubility

Food Color Headquarters for Fifty Years

FIFTY YEARS AGO WE PRODUCED THE FIRST HARMLESS FOOD COLORS used in the United States (after long study by experts of their physiological effects—the first and only work of this kind ever undertaken on coal-tar colors), and after establishing their harmlessness for food, every batch was tested before being distributed. This was 30 years before certified colors came into use, of which we were the FIRST PRODUCERS. We have never yet failed to prove any official wrong who claimed to find objectionable colors in our customer's goods. No manufacturer ever suffered through the use of them. We were largely instrumental in halting opposition of important officials when the present Food and Drug Act was before Congress, who would have forbidden all food coloring if they could.

COLORS FOR PLASTIC WORK

Atlas Cert. New Rose
" " Marseline Orange
" " C. D. M. Green
" " Mauvine
" " 514 Brown

and many others, which will produce those beautiful and delicate shades of nature.

CONFIDENCE

The Progressive Manufacturer can only establish a quality product by using the best material; there are no ingredients in which confidence in the producer is so absolutely necessary or important as in Colors and Flavors. **Our 75 years of business experience is a guarantee of quality products, and a sound basis for your confidence.**

GENUINE FRUIT EXTRACTS

Our Genuine Fruit Extracts are not only so-called, but the **product of the actual fruit whose name they bear.**

The production processes are by special apparatus and methods which retain and preserve all the finest and most delicate esters and aromas of the **finest selected fully ripe fruit picked where the most lucious of its kind is grown.**

We shall be glad to have an order for pint samples and suggest our **wonderful Genuine Fruit Strawberry and Raspberry Extracts.**

H. KOHNSTAMM & CO., Inc.

Established 1851

11-13 East Illinois Street
CHICAGO

Factory:
537-555 Columbia St., Brooklyn, N. Y.

83-93 Park Place
NEW YORK, N. Y.

Four Huhn Starch Drying an
Condition the Starch into whic

WHEN writing to us for Catalogue, kindly tell us what kind of goods you cast in starch.

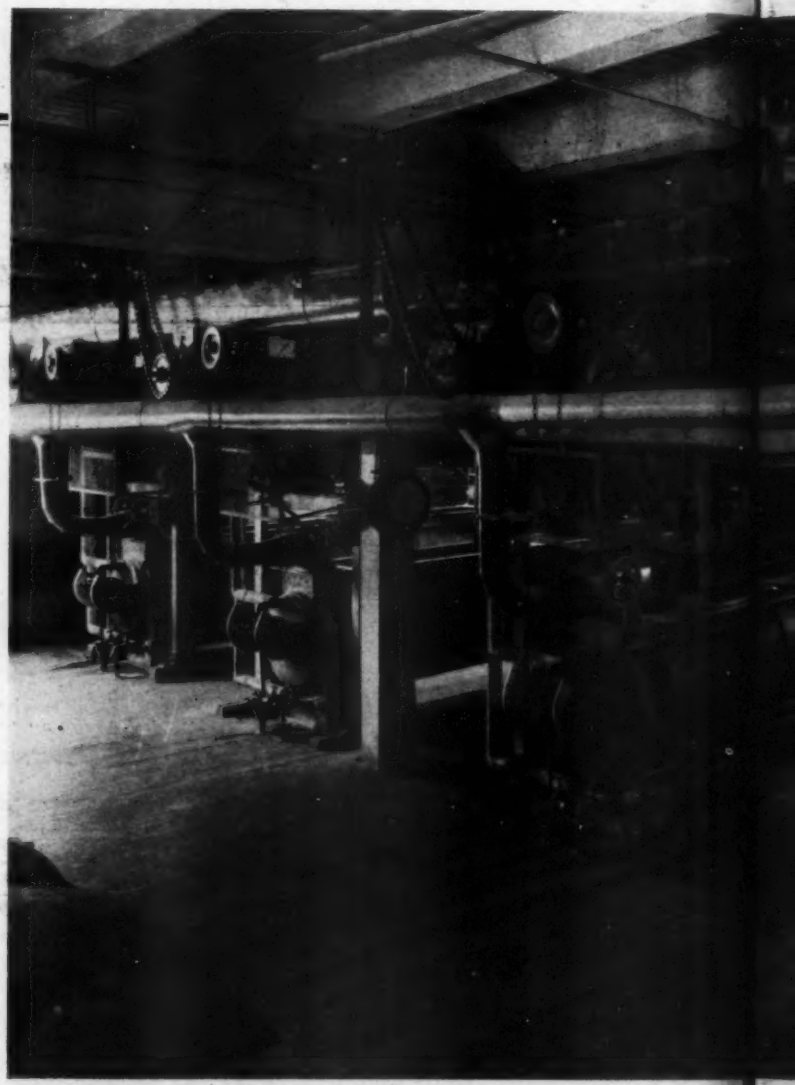


Photo Courtesy The Cracker Jack Co., Chicago

The Huhn System of drying starch ntro
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confectionery industry?

A. HUHN MANU

3915 Hiawatha Av , M

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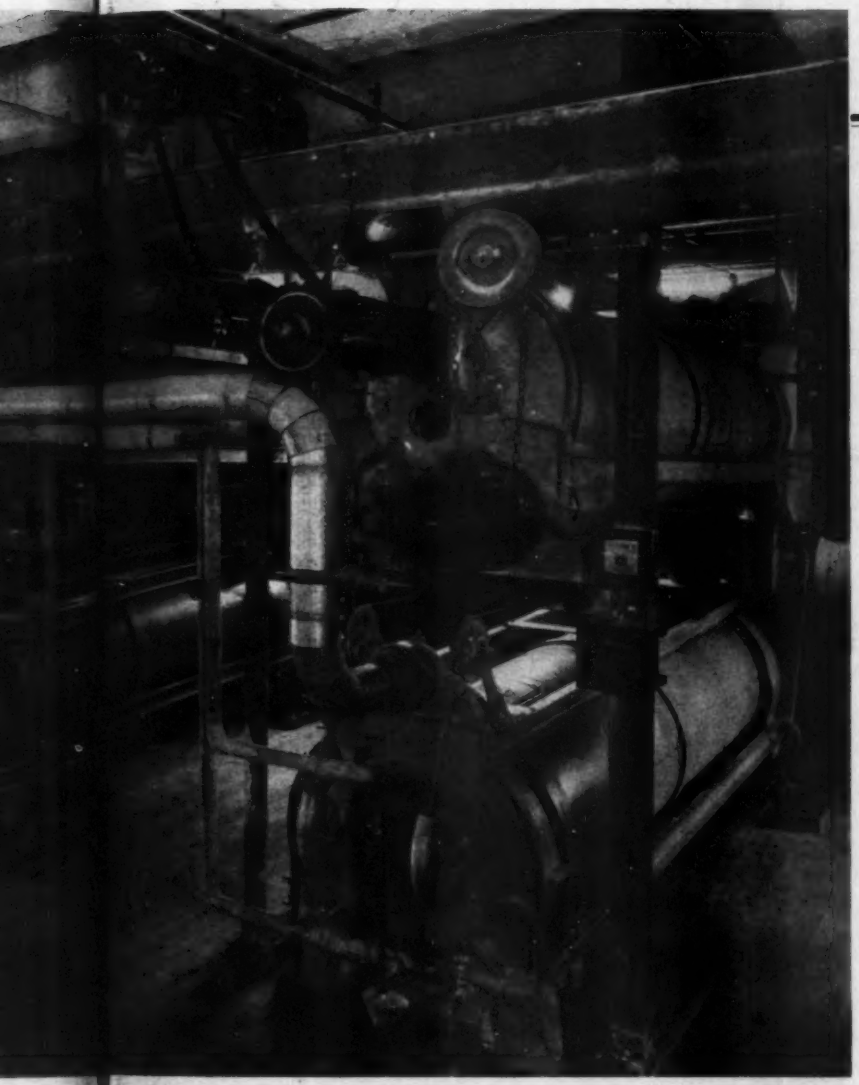

SEE Our Exhibit at National Confectioners Exposition, Booths 32 and 33, Steel Pier, Atlantic City, May 23 to 29.

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based r contacts and installations in the

NUACTURING CO.

tha Av , Minneapolis, Minn.

NEWCRAFT COATING MACHINE CO., INC., Chicopee Falls, Mass. (No. 16, 17)—
Exhibiting 8" machine for small manufacturers, also 16" machine, both disc process. In attendance: H. L. Handy, H. H. Handy, Geo. A. Dumas, Geo. McNeal.

THE NULOMOLINE COMPANY, 111 Wall Street, New York, N. Y. (Nos. 118, 119)—
Exhibiting "Nulomoline" and "Convertit." Candies will be exhibited which show how these two products are used. In attendance: James A. King, Charles Fahrenkamp, Ned Fuad, Gordan H. Wilcox, James P. Booker.

HENRY H. OTTENS MFG. CO., 127 S. Front Street, Philadelphia, Pa. (No. 120)—

PACKAGE MACHINERY CO., Springfield, Mass. (Nos. 27, 40)—
Exhibiting fruit drop tablet assembling and wrapping machine. In attendance: Roger L. Putnam, Geo. A. Mohlman, H. L. Davis.

PAPER SERVICE COMPANY, 19 S. Seventh Street, Philadelphia, Pa. (No. 128)—
Exhibiting special display of new Pall Mall metallic fancy box covering papers. In attendance: Mr. F. S. Ditmars, Mr. E. M. Hood.

PENICK & FORD SALES CO., INC., 420 Lexington Avenue, New York City (No. 20)—
Exhibiting Corn Syrup, Corn Oil, Corn Starch and Crystal Corn Sugar. In attendance: H. T. Wager and J. H. Almond.

THE PILLIOD CABINET CO., Swanton, Ohio. (No. 149)—
Exhibiting an assortment of miniature cedar chests and other small cases unlined, silk lined, metal covered and metal lined. In attendance: T. J. Pilliod, Manager, and E. H. Bergin, Director of Sales.

THE C. M. PITT & SONS COMPANY, Key Highway, Boyle and Harvey Streets, Baltimore, Md. (No. 42)—
Exhibiting Velvet cherries for dipping, featuring Ye Auld Tyme Jamaica rum flavor, and Velvet flavors, featuring Velvet black walnut flavor.

RACINE CONFECTIONERS' MACHINERY CO., Racine, Wis. (No. 51)—
Exhibiting two or three new and popular candy machines. In attendance: E. E. Cahoon, Wm. Walton, R. S. Hislop, A. Warren Peterson.

READ MACHINERY CO., York, Pa. (No. 15)—
Exhibiting Read 3-speed candy beater and various fittings and attachments together with some of the leading nougat bars of this country that are made with Read beaters. In attendance: P. D. Hendrickson, M. B. Perham and W. M. Webb.

REEVES PULLEY CO., Columbus, Ind. (70)—
Demonstrating Reeves variable speed transmissions used in connection with depositors, enrobers, baking ovens, hard candy polishing machines, Mogul machines, mixing kettles, conveyors and many other special machines. They will exhibit their standard horizontal type transmission, complete ball bearing type and also their new vertical design machine. These exhibits will be so arranged that the speeds can be adjusted and changed by the visitors and provision will be made through tachometers to show the increase in speed and flexibility in speed adjustment which the Reeves transmission enables the operator to obtain.

RICE CHOCOLATE CO., Charlton Street, Everett, Mass. (No. 63)—
Exhibiting chocolate coatings. In attendance: F. D. Rice, General Manager; W. E. Adams, Director of Sales; R. B. Rice, Assistant Sales Manager; H. G. Webster, Plant Manager.

SANITARY COVER CO., Pittsburgh (49)—
Exhibiting candy pail display racks, also display racks for 5-lb bulk chocolates. In attendance: J. Kim.

F. J. SCHLEICHER PAPER BOX CO., 1811 Chouteau Ave., St. Louis, Mo. (130-131)—
Exhibiting fancy and special designed paper candy boxes including many original, late designs of French origin. In attendance: B. F. Fischer, L. H. Schleicher, A. K. Schleicher, Frank H. Schleicher.

SCHREIBER PRODUCTS CORPORATION, Buffalo, N. Y. (No. 43)—
Exhibiting Spramalt, a malt sugar product; Schreiber's malted milk; Maltay, for fountain use; Maltdex, malto-dextrin; Schreiber's malt sugar. Samples used in test to show use of Spramalt in retarding the graying of chocolates. Samples of various confections in which Spramalt was used. In attendance: W. M. Brownell, T. J. Shields.

H. SCHULTZ & CO., 531 W. Superior Street, Chicago, Ill. (Nos. 35, 86, 87)—
Exhibiting fancy paper boxes. In attendance: F. P. Wagner, Jr., and H. L. Dikeman.

SELF LOCKING SCHURMANN CO., 589 E. Illinois Street, Chicago, Ill. (No. 50)—
Exhibiting machine for manufacturing candy boxes, machine for manufacturing candy partitions, cartons for candy eggs. In attendance: J. E. Walsh, Harry Johnson, D. R. Vail.

SETHNESS CO., 659 Hobbie Street, Chicago, Ill. (Nos. 132, 133)—
Exhibiting creams, caramel pastes, flavors, candy specialties, featuring grape flavored gum. In attendance: W. M. Adams, David B. Adams, Murray R. Riskin, Jacob De Vos, George Murr and C. H. Sethness.

A. D. SHOUP CO., 86 34th Street, Brooklyn, N. Y. (Nos. 85, 86, 87)—
Exhibiting fancy paper boxes. In attendance: F. P. Wagner, Jr., and H. L. Dikeman.

HAROLD A. SINCLAIR, 160 Broadway, New York, N. Y. (No. 88)—
Exhibiting Delft pure food gelatine. Also many confectionery specialties by leading makers. In attendance: Harold A. Sinclair, Harry P. Calvert, Francis A. Crotty and Frank Z. Woods.

THE SMITH SCALE CO., 263 W. Spring Street, Columbus, Ohio. (No. 73)—
Exhibiting "Exact Weight" scales for the various requirements of candy manufacturers and retail confectioners. B. G. Crandall, in charge of exhibit.

STALEY SALES CORP., Decatur, Ill. (95)—
Exhibiting confectioners' corn syrup, confectioners' special moulding starch and confectioners' thin boiling starch. In attendance: E. K. Scheiter, General Sales Manager; Wm. H. Randolph, Jr., L. R. Dickinson, J. W. Hixson, J. J. Sleigh and R. M. Ives.

NULOMOLINE

THE HONEY OF SUGAR

NOUGAT FOR THE SUMMER TIME

Meet

the members of our laboratory and practical staff at Atlantic City. Should you have a new or old combination that is not producing complete satisfaction bring samples with you for an examination and report. We will make your visit to our booth one of genuine interest.

Nougat may be wrapped or iced —in either form it makes an attractive summer confection.

You can keep the chew in and the crust out of your Nougat by the addition of Nulomoline.

Nulomoline fits into Nougat as naturally as does honey, in fact, "The Honey of Sugar" is far more dependable because it is uniform at all times.

You can also use Nulomoline to advantage in the icing. We suggest you send us an order for a 50-pound trial case of Nulomoline and we will furnish you with formulas for both Nougat and Icing.

CONFECTIONERS' EDUCATIONAL ADVERTISING Contributor

The NULOMOLINE Co.

109-111 Wall Street New York, N. Y.

STANDARD SEALING EQUIPMENT CORPORATION, Rawson Street and Queens Boulevard, Long Island City, N. Y. (Nos. 11, 12, 13)—

Exhibiting automatic top and bottom gluing and sealing machine for corrugated or solid fibre board shipping containers. In attendance: Mr. A. E. Rideout, President; Mr. M. McFaull, Vice-President; Mr. G. Ingham, Vice-President.

WILLIAM J. STANGE CO., 2549-51 W. Madison Street, Chicago, Ill. (No. 89)—

Exhibit featuring Peacock Brand certified food colors in candy. In attendance: Wm. J. Stange, President and General Manager; J. E. Neale.

STUEBING COWAN CO., 312 E. Court Street, Cincinnati, Ohio. (No. 46)—

Exhibiting Stuebing-Cowan industrial lift trucks and steel bound platforms.

SUGAR SANDING MACHINE CO., 2325 Edmondson Avenue, Baltimore, Mo. (54)—

Exhibiting Mahan's continuous sugar sanding machine for sugar coating gum drops, jellies, hard candies, etc. In attendance: Charles Mahan, President; Miss Alice Mahan, Demonstrator.

SUNLAND SALES COOPERATIVE ASSOCIATION, Fresno, Cal. (No. 110)—

THE TOY KRAFT COMPANY, Factory and Studio, Wooster, Ohio. (No. 84)—

Exhibiting Kandy Kraft hand painted buckets, Kandy Kraft pull toys, hand painted Toy Kraft for lolly pops—special. In attendance: Mr. George Heisler, Mr. F. J. De Hart.

UNION CONFECTIONERY MACHINERY CO., 318 Lafayette Street, New York (No. 93)—

Herman Greenberg, Joseph Greenberg and Charles Balin in attendance. They will feature literature and list of machinery on hand, and from plants which they have recently liquidated.

UNITED CHEMICAL & ORGANIC PRODUCTS CO., 4200 S. Marshfield Ave., Chicago, Ill. (No. 115)—

Exhibiting Ucopco Gelatine. In attendance: J. W. Burns, J. A. Hafner, F. R. Johnson and P. T. Storr.

UNITED STATES FOIL CO., Louisville, Ky. (No. 91)—

Exhibiting the Master metal line of foil wrappers, cartons, box tops, etc. In attendance: H. G. Hanks, General Sales Manager; C. B. Kniskern, Manager Container Div.; S. N. Williams, Philadelphia Representative.

UNIVERSAL CANDY & CHOCOLATE MACHINERY CO., Springfield, Mass. (141)—

Exhibiting Universal bottomer, Universal chocolate pump. In attendance: Ernest F. Merrow, Harold K. Merrow.

VACUUM CANDY MACHINERY CO., 4737 Ravenswood Ave., Chicago, Ill. (No. 36)—

Exhibiting Simplex cookers and continuous cutting machine. In attendance: S. S. Whitehurst, Blair MacQueen, H. L. Probsten, E. C. Moeller.

VANILLA LABORATORIES, INC., Rochester, N. Y. (No. 94)—

In attendance: Charles R. Phillips, L. W. Chapin, F. J. Minges, J. G. Brown, W. J. Stewart and F. P. Watts.

JOHN WERNER & SONS, INC., Rochester, N. Y. (Nos. 18, 19)—

Exhibiting confectionery machinery. In attendance: Theodore Werner, Charles Werner, Arthur H. Miller.

H. O. WILBUR & SONS, INC., 235 N. Third Street, Philadelphia, Pa. (Nos. 101, 102)—

Exhibiting display of chocolate and cocoa products, also a novel feature. In attendance: F. L. Lamson, L. H. Wilbur, Dr. B. K. Wilbur, H. A. Jones, W. A. Goebel, H. O. Stokes, F. H. Stokes, H. H. Simpson, S. H. Stayton, G. F. Reid, J. A. McWilliams, A. W. Pierce, L. E. Pierce.

YORK MANUFACTURING CO., York, Pa. (Nos. 21, 22, 34, 35)—

A feature of the exhibit will be drinking water fountains, furnishing a refreshing drink for all visitors to the exposition. The water supplied by these fountains will be cooled by their half-ton self-contained refrigerating machine, which will be in operation in their exhibit.

Another feature will be a six-inch by six-inch double cylinder enclosed ammonia compressor, with sections cut away to show construction of the machine, as well as the valve operation. This machine will be operated slowly to show the action of all the various parts.

The still exhibit will consist of: Two-ton self-contained refrigerating machine. Section of shell-and-tube ammonia condenser used with York self-contained refrigerating machines. Specimen of a head welded into a shell by the forge welding method. Board containing all the parts of complete enclosed ammonia compressor. Board containing all the parts of complete enclosed CO_2 compressor. Table, showing assortment of ammonia valves, ammonia fittings and York valve stem shields. Complete display of Yorkco Oil, specially prepared for refrigerating and ice making machinery and auxiliary equipment. An elaborate supply of bulletins and interesting literature on the subject of mechanical refrigeration arranged so all visitors to the exposition can obtain the pieces of literature in which they are interested.

The exposition will be in charge of Mr. Fred A. Weisenbach, Manager of Central Construction and Supply Company, the Philadelphia Representatives of the York Manufacturing Company. Others in attendance: Mr. C. O. Fehl, General Sales Manager, York Manufacturing Company. Mr. M. S. Lebair & Mr. L. C. Leslie, Sales Engrs., Central Construction and Supply Company. Mr. Frank Chalmers, Advertising Manager, Shipley Const. & Supply Company, the New York Representative of the York Manufacturing Company.

Publications

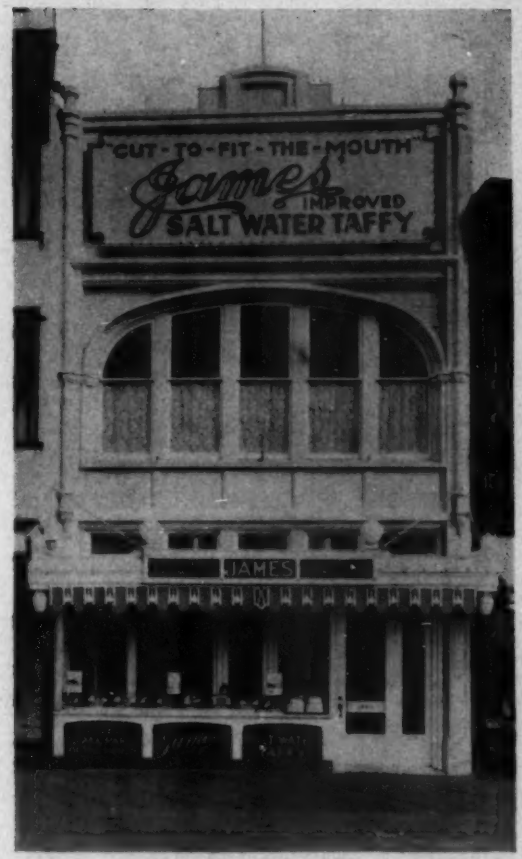
CANDY, 30 S. Michigan Blvd., Chicago (No. 78)

CONFECTIONERS JOURNAL, 437 Chestnut St., Philadelphia, Pa. (No. 14)

CONFECTIONERS REVIEW, Cincinnati, Ohio (No. 126)

THE MANUFACTURING CONFECTIONER, 30 N La Salle St., Chicago, Ill. (No. 127)

While in Atlantic City Visit James Bros.' Famous Salt Water Taffy Factory



James Bros.' Retail Store at 1519 Boardwalk, Atlantic City, is directly connected to their factory where the Bentz "Chillblast" may be seen in operation. Mr. Lee James, Manager, has extended a cordial invitation to all confectioners to visit their factory during convention week—May 23rd to 28th.

REMEMBER: **The Bentz Coldbed** is standard equipment for cooling and packing chocolate-coated goods. Over 500 in use in confectionery and and biscuit industries. May we send you full information?

and See the Bentz "CHILLBLAST"

in operation controlling the atmospheric conditions in this specialty plant where production of James' Salt water Taffy is never halted or interrupted because of unfavorable weather.

(and that's some accomplishment in Atlantic City where the air is saturated with moisture)

The Bentz "Chillblast" as installed at James Bros.' factory, Atlantic City. This dehumidifying apparatus is accepted as standard equipment in confectionery industry for controlling temperature and moisture content of the air to any desired predetermined degree and keeping these ideal manufacturing and storage conditions constant.

Meet us at Booth No. 47 at N. C. A. Exposition

May we send descriptive literature or make a survey of your air-conditioning problems by the Bentz engineering department without any obligation whatsoever.

BENTZ ENGINEERING CORP'N

661 Frelinghuysen Ave., Newark, N. J.

New York: 122 Greenwich St. **La Salle and Wacker Drive, Chicago**

A Clearing House

For Your Candy Problems

Our Research and Service Department offers practical information on Gelatine in Candy-Making

The use of gelatine in candy-making is a science in itself. That is why we have established a special Research and Service Department for the benefit of our customers. This department is headed by one of the country's leading confectionery authorities.

Bring us your problem—whether it is the working out of a new recipe containing gelatine—or some difficulty you may be experiencing with an old one. There is no charge or obligation. We are anxious to serve you.

This Marshmallow Trouble Chart, compiled by our Research and Service Department, gives in tabloid form the hints and directions every marshmallow manufacturer should know. It is sent free to anyone interested. Send for your copy today.

There's Economy in this "Grade Plus" Gelatine

We invite your comparison of Atlantic *Super-Clarified* Gelatine, grade for grade, with other gelatines. Then you will know the meaning of "grade plus"—extra purity, clarity, uniformity and viscosity in every grade. No matter how much or how little gelatine you use, you will find Atlantic *Super-Clarified* Gelatine ideal for every candy-making purpose.

ATLANTIC GELATINE COMPANY
WOBURN, MASSACHUSETTS

Chicago: Suite 510, 118 N. La Salle Street
New York: Room 92, 1 Hudson Street

ATLANTIC *Super-Clarified* GELATINE

"isolate"

a New Factor in Boosting the Profits of Alert Ice Cream Makers

UNTIL you have made a thorough test of the new-process, entirely natural and yet terpeneless, water-soluble, Foote & Jenks citrus concentrates, you can have no conception of the great advance that has been made in the science of flavoring by this single development.

The naturalness of ISOLATES is so striking that the sale of your products employing an ISOLATE flavor increases immediately and to an unbelievable degree.

ISOLATES are so free from aging elements (thanks to our new process) that their favor-winning flavor remains unchanged and changeless in your product even though months elapse between time of manufacture and time of ultimate consumption.

ISOLATES are super-concentrates of standardized strength insofar as the nature of raw materials will permit; interchangeable in your products without change in your formulas. This means freedom from dilution and utmost convenience in your manufacturing process.

The fourth superiority of ISOLATES is economy. ISOLATES are by far the most economical flavor extracts in existence—they go farther in your product and at the same time achieve a greater flavor appeal. Gallon for gallon, any ISOLATE will bring your retailer and you more repeat business at lower selling cost, with lower manufacturing cost and lower flavoring cost per unit of your finished merchandise than other flavors.

Write for complete facts concerning the entire ISOLATE line of natural flavor concentrates — send for trial gallons of ISOLATE orange and ISOLATE lemon—shipped immediately from stock in standardized packages.

Since giving "Original Terpeneless Citrus Concentrates" to the trade back in 1885 we have perfected a full line of other super-extracts ideally fitted for each flavor use. Our entire capital, personnel and laboratories are devoted to the manufacture of SOLUBLE concentrates. We maintain a modern research department for solving your flavor problems. Consider the Foote & Jenks representative in his true capacity—a Service-man eager and able to assist you.

FOOTE & JENKS

Flavor Specialists

JACKSON, MICHIGAN

The Scientific Aid

Defying Weather Conditions

Regardless of weather conditions you can produce soft cream centers with Convertit.

In warm or muggy weather increase the melting temperatures of your batches thereby making the centers firmer and easier to handle.

Convertit will soften the centers after they have been coated with chocolate.

Don't wait until trouble drives you—send us an order today for a trial pound and learn how Convertit simplifies the production of cream centers.

Our Convertit booklet tells you exactly how it is done.

WHAT CONVERTIT IS

CONVERTIT is a yeast enzyme known as invertase. It is a practically colorless liquid. It comes packed in bottles or steel drums.

Invertase has also been the subject of long study and research by the Bureau of Chemistry at Washington, D. C. and it is now fully recognized as a valuable scientific contribution to the candy industry—an outstanding example of the benefits to be derived from the cooperation of chemists and candy makers.

THE NULOMOLINE COMPANY

Exclusive Distributors of Convertit

109-111 WALL STREET NEW YORK, N. Y.

CONVERTIT

The highly concentrated invertase of standardized activity

You Can Make
Better Marshmallow
If Others Can

All of These

- Delicate Crust
- Keep Fresh
- Soft Eating
- Silver Sheen
- Stop Graining
- Holds Up
- Springy Life
- Stay Moist

With a formula controlled by Dr. W. W. Duecker of Mellon Institute and "Essex" Gelatine

You Can Turn the Trick

Meet your market with premier goods. Work up a barrel and see actual results

Remember *Is Standard*

ESTABLISHED 1903

ESSEX GELATINE COMPANY

Manufacturers

40 NO. MARKET STREET, BOSTON, MASS.

Warehoused Stocks for Immediate Shipment

NEW YORK	PHILADELPHIA	CHICAGO	GRAND RAPIDS, MICH.	ST. LOUIS	ATLANTA
54 Washington St.	708 South Delaware Ave.	323 W. Polk St.	435 Ionia Ave., S. W.	400 So. Broadway	29-31 Haynes St., N. W.

DALLAS, TEXAS	LOS ANGELES	SAN FRANCISCO	PORTLAND, ORE.	SEATTLE
301 No. Market St.	412 W. Sixth St.	Second and Brannan Streets	403 Hoyt Street	1018-4th Ave., So.

In Whitman's—

One of the Carrier Conditioned packing rooms in Whitmans. Note the perfect air duct near the ceiling

Manufactured Weather makes "Every day a good day"

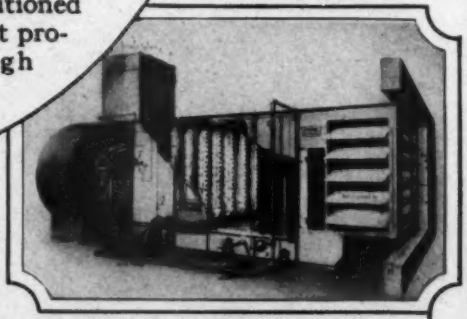
PHILADELPHIA is on your route to the Atlantic City Convention and in that fine old city is located the great factory of S. F. Whitman & Sons Co. You ought to visit that plant, and, when you do, you will discover what we mean by Manufactured Weather. Air, washed, purified and conditioned to the proper temperature and humidity, is supplied to every department where weather is important. This is a completely Carrier Conditioned factory, enjoying uniform, efficient production through Weather Independence.

At Atlantic City

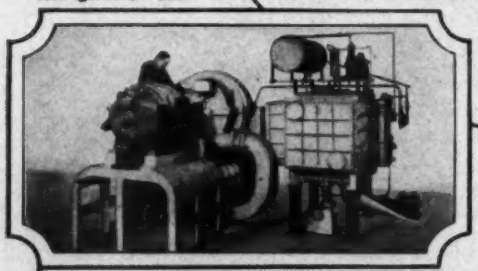
you will find Carrier Engineers in our Booth, No. 23. These men will gladly discuss with you the air conditioning and drying problems in your plant.

The finest candy factories in the world are Carrier Conditioned

Typical Carrier Spray chamber and fan equipment. Here the air is washed and its humidity controlled.



The new, safe, simple, automatic Carrier Centrifugal Refrigeration Unit.



Carrier
AIR CONDITIONING AND DRYING EQUIPMENT

Carrier Engineering Corporation

Offices and Laboratories

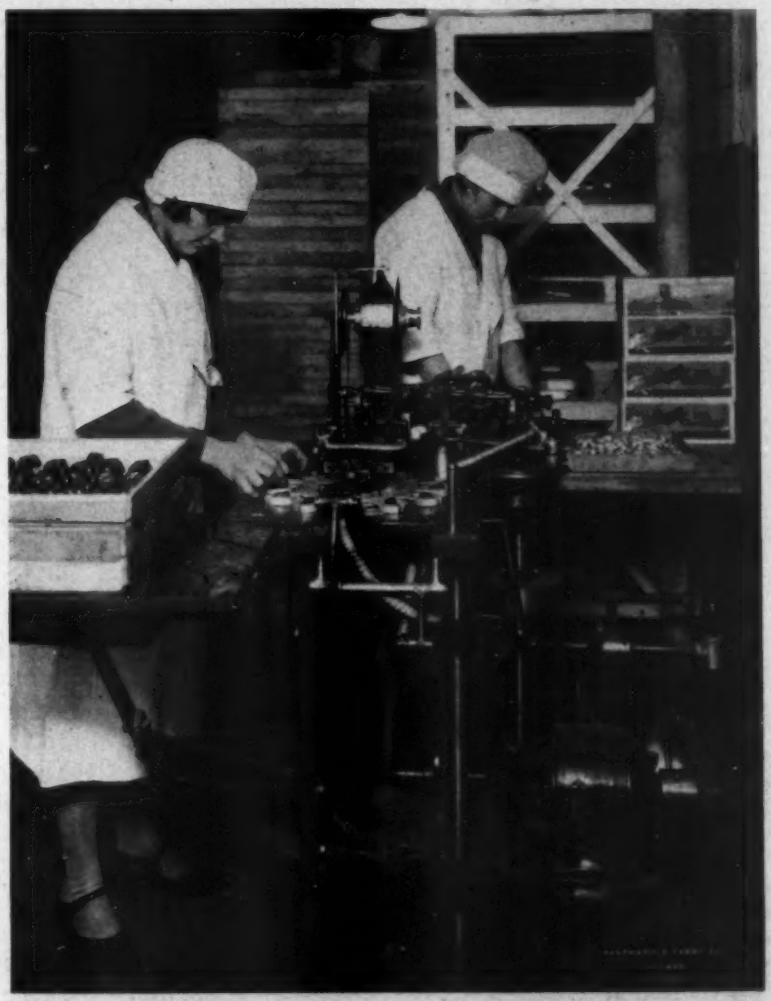
NEWARK, NEW JERSEY

Assoc. Member Nat. Conf. Ass'n

NEW YORK PHILADELPHIA BOSTON CHICAGO CLEVELAND KANSAS CITY LOS ANGELES

See the Forgrove Wrapping Machines demonstrated at N. C. A. Exposition

Or if you are not coming to Atlantic City this month, send us samples of your bars, bulk and penny goods which you would like to put out "Foil Wrapped." We will immediately quote you price on the type of machine which will do the work you want most satisfactorily.



No. 26 "Forgrove" Foiling Machine, Wrapping Chocolates—60 per minute

Note these advantages of the above machine:

1. Remarkable range of size and shape. 2. Scrupulous economy of foil. 3. Runs as quietly as a sewing machine. 4. Wraps 60 a minute with one feeder. 5. Wrapping visible in any position. 6. Soft centered and liqueur chocolates wrapped without breaking. 7. It is easy to understand because you can SEE HOW IT WORKS.

BAKER PERKINS CO., Inc.

Factory: Saginaw, Mich. **250 Park Ave., New York, N. Y.**

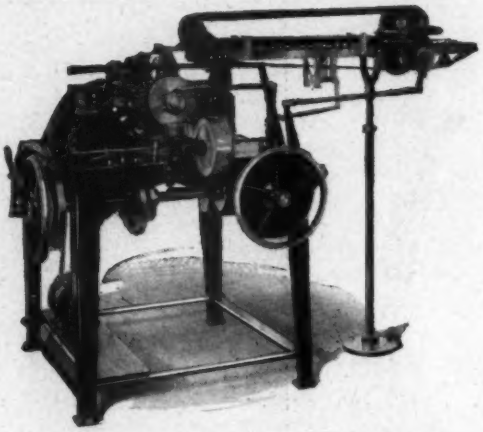
Meet us at the Annual
EXPOSITION and CONVENTION
of the
NATIONAL CONFECTIONERS ASSOCIATION
at ATLANTIC CITY - May 23-28-1927
All under one roof — on the Steel Pier

Something new at the

Convention

Automatically-fed tablet wrapping machine

Booths 27 & 40



While you are at the Convention you will certainly want to see this improved tablet wrapping machine, with its automatic feeding device.

This machine eliminates the necessity of stacking the tablets before they are wrapped. The fruit drops or mints are fed into a hopper at one end of the machine. From then on the entire process is automatic—the machine stacks the drops into the required number, wraps them in reinforced foil cut from a roll, and bands the wrapping in a printed label sealed with paste. The entire operation requires but 1.7 seconds. One machine produces 18,000 packages per day.

This new automatic feed will very shortly be available in connection with our standard fruit drop machine which is now wrapping such well-known brands as Life Saver Fruit Drops, Lance Cough Drops, Payroll Lozenges, Beechnut Fruit Drops, Mars Chocolate Bits, and others.

The manufacturers of these highly successful products were quick to avail themselves of the merchandising advantages offered by this style of wrapping. It permits effective display. Gets the goods on the counter, within easy reach of the casual customer. And appeals to the consumer because when opened, the package holds its shape and does not spill the tablets into the pocket.

Make a note to see this machine on your visit to the Convention. Booths 27 and 40.

PACKAGE MACHINERY COMPANY

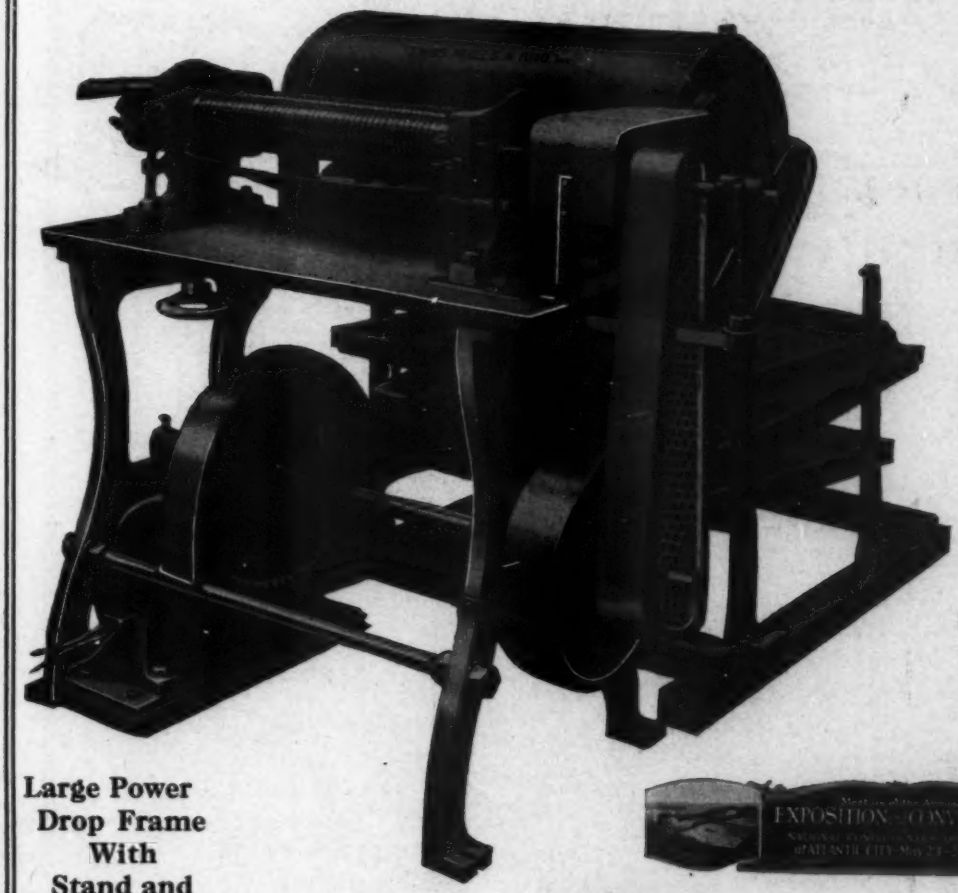
Springfield, Massachusetts

New York: 30 Church St. **Chicago: 111 W. Washington St.**

Thomas Mills & Bro., Inc.

1301 to 1315 North Eighth St. **Philadelphia, Pa.**

ESTABLISHED 1864



Patent Automatic Seamless Hard Candy Machine

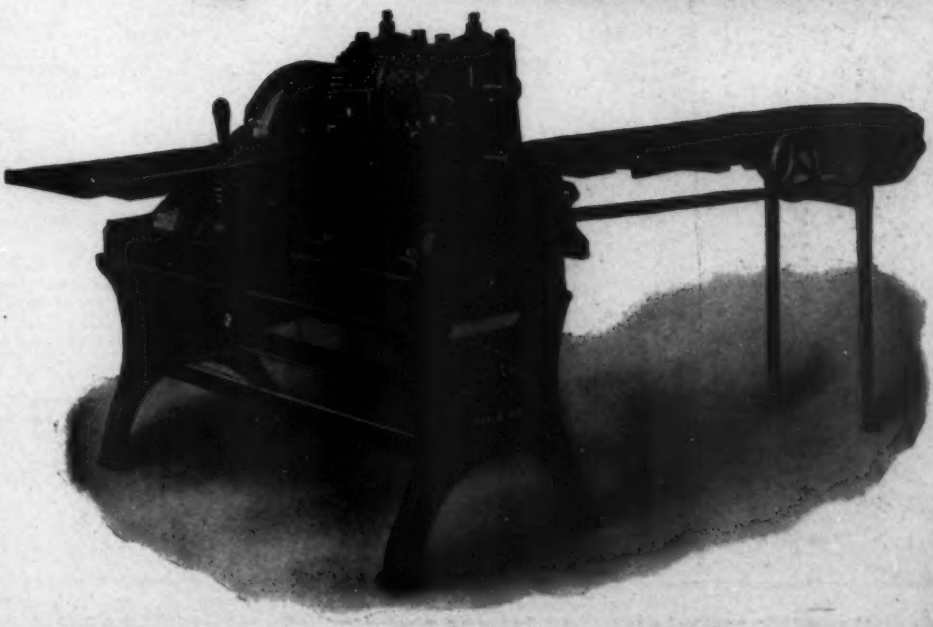
Improve Your Production By Installing This Labor Saving Machine

Send for Special Circular

Large Power Drop Frame With Stand and Endless Belt Conveyor Attachments

Used In All The Largest Factories For High Grade Hard Candies

Our Catalog of Confectioners Equipment Sent on Request

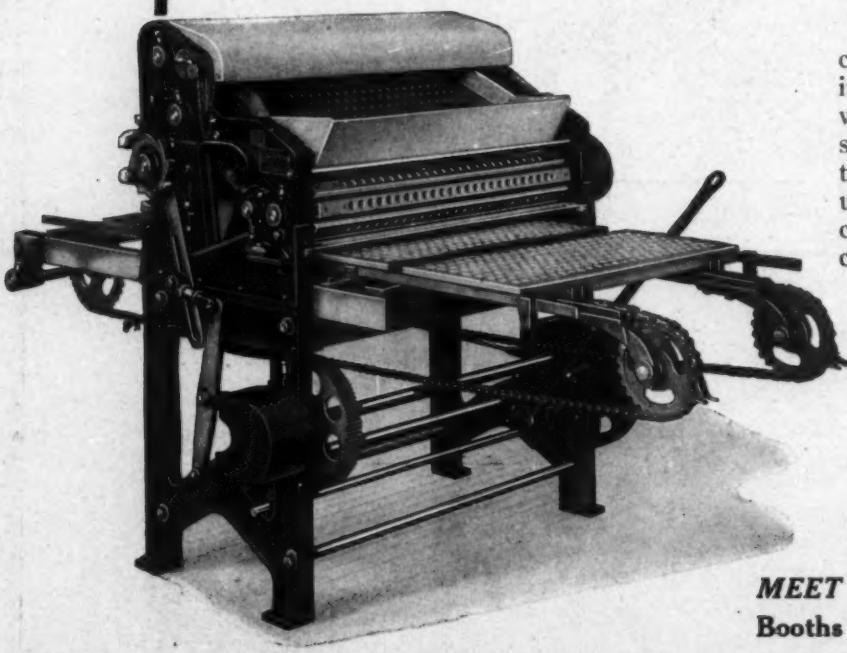


Another Labor-Saving National Creation—

Cherry Dropper

Eliminates All But One Girl on Cherry Work

Now we offer an accurate, efficient Cherry Dropper, which has been developed after a great deal of study and experimenting. It solves many problems of handling Cherry work. Cuts down your labor costs and insures quality production.



This machine can be connected in various ways with Moguls or separate Depositors. Can be regulated to handle cherries from 900 count up.

It will pay you to investigate this new machine. Write today for full details.

MEET US AT THE SHOW

Booths Nos. 24, 25, 26, 37, 38, 39

National Equipment Company

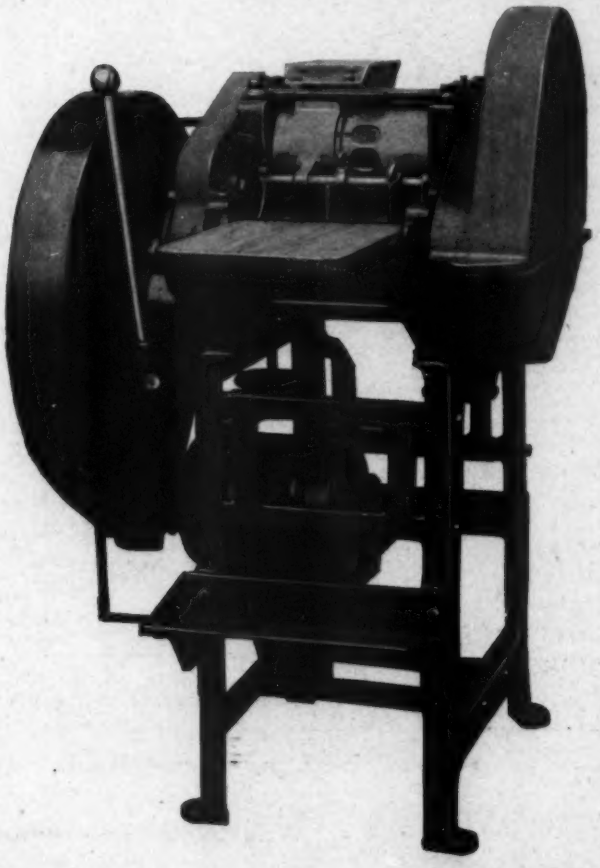
Largest Manufacturer in the World of Candy and Chocolate Machinery

Springfield, Massachusetts, U·S·A

RACINE
CONFECTIONERS' MACHINERY

Racine Automatic Sucker Machine

(PATENTED)

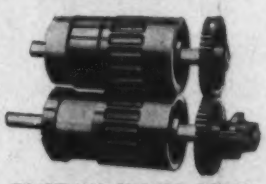


This is the machine that made the "all day sucker" the most popular form of hard candy in America.

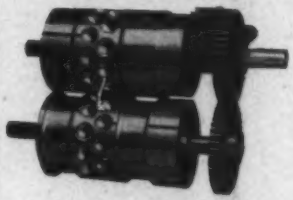
The latest model pictured above represents years of gradual development and because of the variety of its products it is practically a complete hard goods equipment in itself.

It is supplied with pulley for belt drive or with motor direct connected as illustrated. The length of conveyor is optional but 24 feet with air tunnel and motor driven blower is the accepted standard.

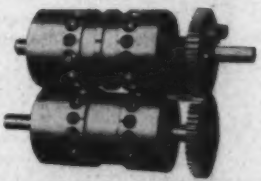
Note the variety of products made by these interchangeable rolls.



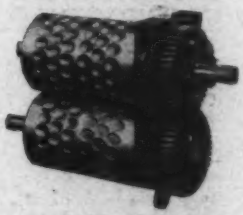
STANDARD SUCKER ROLLS
Candy on one end of the stick



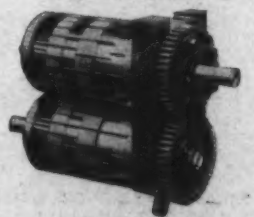
DUPLEX SUCKER ROLLS
Two suckers at a time



DUMBELL SUCKER ROLLS
Candy on both ends of stick



DROP ROLLS
Engraved as desired



CUTTING ROLLS
Waffles and Satin Finish Goods

RACINE CONFECTIONERS' MACHINERY COMPANY
RACINE, WISCONSIN, U. S. A.

"EXACT WEIGHT" SCALES

"Giving Splendid Service in Every Respect"

WORLD FAMOUS MAKERS OF **Eline's** POPULAR-PRICED CANDIES and CHOCOLATE, COCOA, COATINGS.

MILWAUKEE

April 11, 1927.

The Smith Scale Co.,
Columbus, Ohio.

Gentlemen:

In the manufacture and shipping of our candies, it is vitally important, so far as our costs and profits are concerned, that every pail and case of our confections be accurately weighed.

When you consider that our output each week is approximately 2,000,000 pounds, you will see that it is imperative that we use scales as accurate as it is possible to obtain.

You, no doubt, will be interested in knowing that the 32 "EXACT WEIGHT" scales used in Purity Village are giving splendid service in every respect.

Cordially yours,

ELINE'S Inc.

D. J. O'Sullivan
Advertising Manager.

"EXACT WEIGHT" SCALES FOR EVERY DEPARTMENT

Used as Standard Equipment by Nationally known Manufacturing Confectioners and Retail Candy Dealers.

THE SMITH SCALE CO.

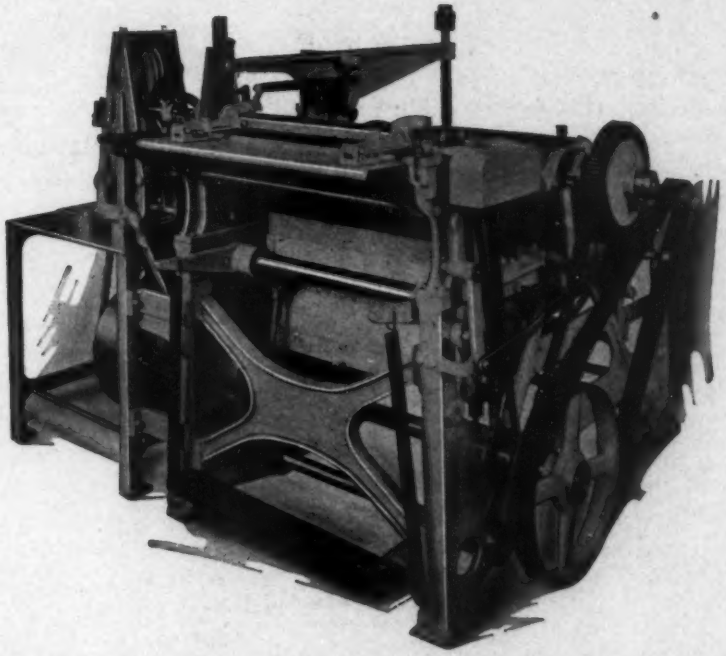
Columbus, Ohio Toronto, Canada Montreal, Canada

No. 275
Speed Packing Scale
Capacity . . . 65-lbs.

MAKERS OF "EXACT WEIGHT" SCALES
for Every Business, Weighing 1-32 oz. to 300 lbs.

SALES AND SERVICE OFFICES IN
PRINCIPAL CITIES

The AUTOMATIC HARD CANDY MACHINE *for* SPHERICAL HARD GOODS



This machine embodies in it all the features of the Semi-Automatic Machine plus the added convenience of Sizing, Feeding, Cutting and Discharging, ***entirely automatically***

IT SAVES LABOR
INCREASES PRODUCTION
DOUBLES YOUR PROFITS

Hard Candy Producers:

Special provisions are also made for producing the now famous fruit tablets on this machine. It merits your consideration. Write us.

Full information on request — Do it now!

JOHN WERNER & SONS, Inc.
ROCHESTER, N. Y.

New York Office: Alamac Hotel.

MODERNIZE Your HARD CANDY Department

The E & R Plastic Candy Maker

AT last year's Exposition we displayed a new Plastic Candy machine so novel in design, and so accessible for cleaning, with so simple and satisfactory a method of changing dies that it met with instant approval on every hand.

This year we take pride in presenting to the trade a refined and strengthened model of this machine, perfected during this past year under actual factory production conditions. It has proven itself the most rapid Plastic Candy Forming Machine obtainable at any price.

It will produce 60 pounds of Raspberries, running about 110 to the pound, in 6 to 7 minutes! Other pieces in proportion. The quality of the forming is unsurpassed.

A special process has been developed during this last year for making dies from hand engraved masters, as sharp in detail as if individually hand cut, and far more uniform in workmanship and volume than would be possible by hand methods. A superior special bronze die which can be sold you for one-third of what they would cost us if made by the old methods. The new die designs now available produce a quality of plastic candy unsurpassed for beauty of form.

Meet us at Booth 134 at the Convention in Atlantic City and see for yourself this wonderful machine, and samples of candy produced on it.

It is reasonably priced.

ELDER & ROBINSON COMPANY

5711 West Chicago Avenue

CHICAGO, ILL.

Eastern Representative: **John Werner & Sons, Inc., Rochester, N. Y.—Alamac Hotel, New York City**

See
this machine
demonstrated
Booth 36
at the 4th National Exposition of the National Confectioners' Association, May 23-28.

Read

What Prof. Rogers, Lewis Institute of Technology, says after making Unbiased Tests of the Simplex Gas Vacuum Cooker compared with open fire methods

—hard candy made in Simplex Vacuum Cooker highly lustrous, drier, whiter than open fire production * * * keeps its lustre longer * * * positive uniformity of batches * * * reduces stickiness from dampness due to moisture being drawn by vacuum * * * less inversion * * * requires less flavor and coloring * * * less gas for cooking * * * Simplex formula 70% sugar, 30% corn syrup gives whiter, drier product; noticeable difference in color and finish than 80% sugar, 20% corn syrup open fire formula, time and labor saving * * * Simplex Cooked batch immediately ready; no waiting or handling while cooling on slabs * * * requires but half slab space; no greasing slabs necessary * * * less waste and greater scrap salvage * * * spins smoother, does not get lumpy * * * greater production with no additional help * * * less shrinkage * * * cooks **all** pure sugar or **all** corn syrup or **any** combination * * *

Full Report on Request

If you are using the open fire method for cooking hard candy and if you want to improve the finish, using a more economical formula of materials, send for Prof. Rogers' report AT ONCE. No obligation incurred. Also ask for list of prominent Simplex users. Write TODAY.

FREE Demonstration in Any Candy Plant, Anywhere

Write or Wire
VACUUM CANDY MACHINERY COMPANY
4737 Ravenswood Ave.
Chicago

If this cooker stood idle 9 months of the year, it would still pay you to own one

SIMPLEX VACUUM COOKER

So near the Ocean it's called

The Breakers

&

So modern in equipment and well conducted it is known as one of the World's finest Hotels

So

plan a Sojourn by the Sea and visit

The

Breakers

ATLANTIC CITY

NEW JERSEY

JOEL HILLMAN
President

JULIAN HILLMAN
Vice-President & Manager

Grayling's, Chicago
Made in 1 and 2 lb. sizes

American Can Company

NEW YORK CHICAGO SAN FRANCISCO

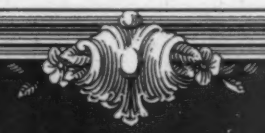
TRADE CANCO MARK

Is your candy box a good press agent?

DOES it tell the story of your sweets in as glowing terms as befit them? The package is the first thing that Milady sees—its charm should captivate her by its suggestion of toothsome mouthfuls to come.

Sweethearts, wives, mothers, daughters—many succumb to Canco decorated metal packages at first sight. But no more so than do the men who buy for the ladies. They can't resist its beauty appeal and the welcome they know She will give it.

WHY not have your particular label skillfully Canco lithographed on a metal package? Or else adopt one of the many Canco stock patterns? A Canco representative will be glad to give you all details.



American Can Company

NEW YORK CHICAGO SAN FRANCISCO

DIPPING STRAWBERRIES

A SPECIAL STRAWBERRY
Specially Processed

Has necessary firmness and texture to withstand handling in dipping and a freshness of taste with which none other can compare.

THREE SIZES

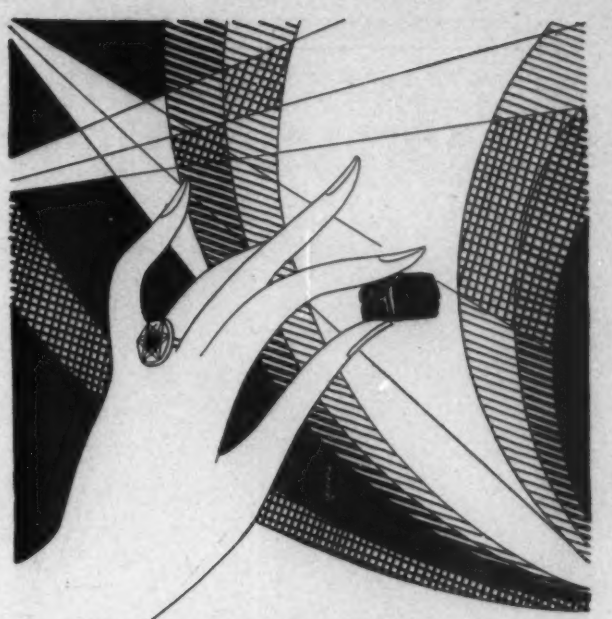
Large	Medium	Small
650-700	850-900	1000-1100

QUANTITY LIMITED

Contract NOW fo. your Fall supply

Write for prices

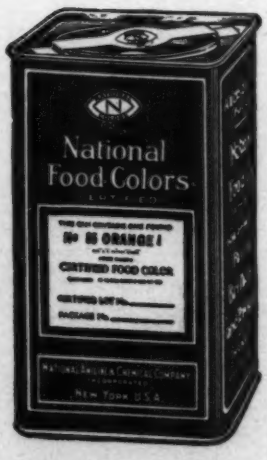
BLANKE-BAER EXTRACT & PRESERVING CO.
3224 South Kingshighway St. Louis, Mo.



EXTRA
KREMAIZ
FOR MOUSSES AND FOR CREAMS

Made only by
KAY-WHITE PRODUCTS, Inc.
8 West Broadway, New York
Also Mfrs. of F-C CARAMEL PASTE

AT THE CONFECTIONERY EXPOSITION



Certified Purity

VISIT the National Booth in Spaces 96 and 97, when you attend the Fourth Annual Exposition of the National Confectioners' Association, to be held on the Steel Pier at Atlantic City during the week of May 23rd. You will find an interesting display showing the results obtained with National Certified Food Colors in a variety of products of the confectionery trade.

Our technical men will be in attendance and you are invited to make the National Booth your headquarters.

Certified Food Color Division

National Aniline & Chemical Company, Inc.
40 Rector Street New York, N. Y.

CHARLOTTE 201-203 W. First St.
CHICAGO 357 W. Erie St.
SAN FRANCISCO 145 Second St.

NATIONAL N COLORS

VELVET DIPPING CHERRIES

With the Auld Tyme Jamaica Rum Flavor

Just imagine a chocolate dipped, luscious red cherry with a liquid cordial that tastes like fine old Jamaica Rum! Samples and prices sent on request.

The C.M.Pitt & Sons Company

FORMERLY TRADING AS
THE INTERNATIONAL COMPANY
KEY HIGHWAY BOYLE & HARVEY STS
Baltimore, Md.

America's Finest Coating Machine

Quality Output with High Gloss Finish

Ask about the

Universal Coating Machine

Built in Three Sizes: 16-inch; 24-inch and 32-inch

MANUFACTURED BY

Universal Candy and Chocolate Machinery Co., Inc.

SPRINGFIELD, MASSACHUSETTS

Sales Office: 117 Atkinson Street, Boston, Massachusetts

The Machine Illustrated

New, double knotter, semi-automatic Hopper machine. One of many types of "Saxmayer Tyers" that we have built during the past 15 years.

Trade Your Old Machine

Your old machine has a liberal trade-in value. Write us for full information.

ANNOUNCING

A New "Saxmayer" Tying Machine That Works WITHOUT An Operator

This new machine is one of the most important developments in time saving equipment that has been perfected in years.

It has a conveyor attachment which takes the place of an operator to feed the machine.

Ties 40 boxes per minute.

Must be used in connection with a conveyor system.

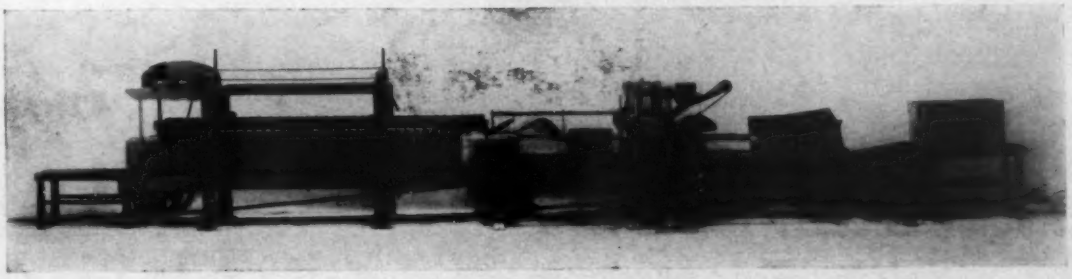
The machine illustrated is NOT the machine described above, but is a popular new type of double knotter machine.

THE NATIONAL BUNDLE TYER COMPANY

BLISSFIELD, MICHIGAN

Makers of Tying Machines for Many Purposes

Standard Complete Automatic Case Sealing Machine



This machine will seal your fibre or corrugated shipping cases without the aid of any labor whatsoever.

Call at Our Booths No. 11, 12 and 13—National Confectioners' Exposition, Steel Pier, Atlantic City, N. J. for demonstration

or write us for further particulars

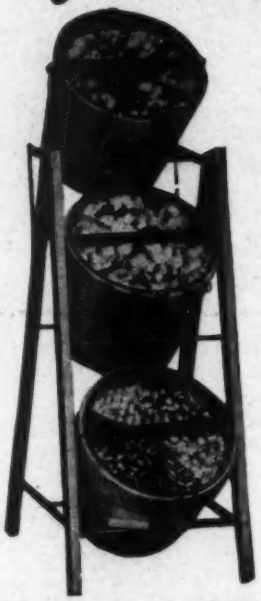
Standard Sealing Equipment Corporation

Rawson Street near Queens Blvd., Long Island City, N. Y.

When the Volume is There
Pail Goods Pay a Pretty Profit

This three pail display rack gives a maximum display in a small space and the whole cost of the rack and three covers is under $5.00 *so you can make a deal that any retailer can afford.*

We'll have a sample at the N. C. A. Convention or will be glad to send samples and prices.



Brunhoff
point-of-sale displays

The Brunhoff Mfg. Co. York and Freeman Ave. **Cincinnati, Ohio**

WOODEN PAILS

FOR GOOD SERVICE AT ALL TIMES

GOOD FOR SERVICE ALL THE TIME

YOU ARE INVITED

TO MAKE YOUR HEADQUARTERS

IN BOOTHS 61-62

AT THE N.C.A. EXPOSITION

ASSOCIATED WOODEN WARE MANUFACTURERS

280 MAIN ST., FITCHBURG, MASS.

There Are Sugars and Sugars

(*Continued from Page* 19)

from acids, invert and gums. Coarse granulated cane sugar, sold under various trade names such as Confectioners' A, Crystal A, or Diamond A, is produced in the refineries from the first boiling of pure liquors after they filter through fresh bone char. It is practically pure sugar, containing 99.9 per cent sucrose. Because of its high purity it has a tendency to revert back to its crystal form very easily. It also requires more corn syrup or longer boiling than is generally required with fine granulated to produce a certain degree of inversion.

The general run of fine granulated cane sugar is made either from second liquors obtained in the production of coarse granulated, or from a blend of second and first liquors. It is still a fairly strong sugar, but will probably contain two or three-tenths of a per cent of invert and gums. In reaction these sugars are slightly acid, with a pH of 6.7 to 6.9, which on boiling will cause considerable inversion of sucrose.

Beet sugars contain a higher percentage of lime salts and are slightly alkaline in reaction, with a pH of 7.0 to 7.2. It shows somewhat greater variation in color and the size of grain than does fine granulated, but on the whole the danger of over inversion is not as great as in fine granulated cane sugar.

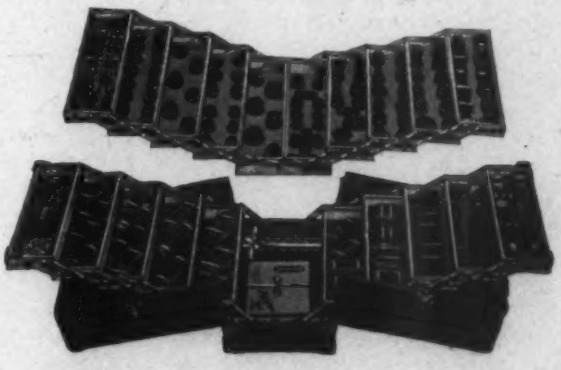
The indiscriminate buyer of sugar is bound to drift into difficulties whether the lot is cane or beet sugar. Buying on the basis of price only, he must accept all possible variations in both sugars, and try to dispose of them to the best of his ability. A far better way would be to buy sugar on the basis of a laboratory candy test. The sample of sugar offered can be tested within a few hours for impurities, its ability to boil at a fairly high temperature without discoloration, or excessive production of invert. Such information would serve as a guide to the broker in placing his sugar and to the candy maker in using it. A similar candy test was found very useful as a control method in the manufacture of corn syrup. I venture to say it would prove of equal value in buying or selling confectioners' sugars.

George D. Zirker, the popular and well-known Eastern representative of the Racine Confectioners' Machinery Company, with whom he has been associated for the last seventeen years, resigned recently and is enjoying a well-deserved rest at his home in Lakewood, Ohio. Mr. Zirker expects to keep in touch with the candy industry and may make some other connection this fall.

Set up or Setback ?

Please the eye—first flash—and your battle is half won. Stage your line of samples, set 'em up to win, and the odds are all in your favor.

Set up or setback, which is it to be? Platinum mounting—or brass?



Samples should be not only complete, but neat, compact, fresh, and attractive. No ordinary case can keep them so, week in and week out.

Showmanship is the key to all our case designs. Some of the biggest sellers in the candy market were helped to success by our sales stagecraft.

No matter how long or how short your line may be, no matter how varied the sizes, there's one best way to show them. We've found that way for many others. We'll find it for you, if you'll tell us your sales display problems.

You ought to see some of our work as shown in our Album of Ideas. Sent free on request, your only obligation is to return it when finished. You can look it over at our booth during the convention, if you want to—or you can see our line there, too.

Knickerbocker Case Company

"Made Right" Sample Cases -- Since 1900

233 No. Clinton Street

CHICAGO, U. S. A.

(3840)

Monthly Digest of Current Technical Literature

of direct or indirect relationship to the confectionery industry

Analysis of Fruit and Fruit Products. P. L. Gowen. J. Assoc. Official Agr. Chem. Volume 9, page 367-74. Collaborative analyses showed that the present official Association of Agricultural Chemists' method for common glucose is applicable in the examination of jams and jellies. Basic lead acetate can be used as the clarifying agent. Results are given confirming Wichman that inversion takes place when sucrose is dried in presence of organic acids. When asbestos or sand is used in drying, much less inversion takes place and the results are nearer the theoretical solid content. When neither asbestos nor sand is used in drying, inversion does not account for the total error and loss in weight still occurred after 21 hours' heating. Where the sucrose has been partially inverted the results obtained by means of the ? ? n ? ? and by drying in vacuo at 70 degrees agree very well.

Miscibility Tests in the Detection of Adulterated Butter. H. J. Atkinson. Can. Chem. Met. Volume 10, page 181-3. The results of miscibility tests on butter fat and coconut oil with sixty-eight different pure organic solvents at 30 degrees and at 22 degrees are reported. Pure ethyl acetoacetate gives very good results as a precipitant for fats in turbidity tests, with either benzene or chloroform as the solvent. Two cc. of the melted fat at 300 degrees is dissolved in 3 cc. of the solvent and ethyl acetoacetate is added until the solution becomes turbid. Very wide differences between the turbidity points of butter fat and other fats are noted.

Report on the Determination of Zinc and Copper in Gelatin. E. H. Berry. J. Assoc. Official Agr. Chem. Volume 9, page 458. A method has been devised and is described in detail, based on the Hertwig and on the Mechurin methods. By taking care not to place the sample in the muffle until the latter has reached the proper ashing temperature, fifty grains of gelatin could be ashed in a 150-cc. porcelain dish. The method has given very concordant results and will be further studied collaboratively.

Report on the Analysis of Flavors. J. W. Sale. J. Assoc. Official Agr. Chem. Volume 9, page 446-56. Two methods for the determination of resins in vanilla extracts were studied, one using acetic acid as acidulant and evaporating the solution once from 75 cc. to 30 cc. to remove ethyl alcohol, the other using hydrochloric acid and evaporating twice from 100 cc. to 50 cc. The weights of resins found were not strictly proportional in any case to the percentage of true vanilla extract present, but on the whole they were approximately proportional in all dilutions except 1-10 per cent. A number of exceptions occurred in all dilutions, however, so that the weight of resins cannot be used to calculate the percentage of true vanilla. Extracts made from vanillons (Vanilla pompona) contain about the same per cent of resins as true vanilla (V. planifolia) extracts. Extracts prepared with the aid of alkali contain more resins than those made without alkali. Adding of substantial quantities of sugar, glycerol, caramel and vanillin does not materially affect the results. The results obtained by the two methods are similar, but more consistent with the hydrochloric acid method. Data obtained on 18 standard extracts indicate that the normal quantity of resin in extracts prepared without the use of alkali is about 0.1 per cent as determined by the hydrochloric acid method. Comparative tests on aspidii, capsicum, ginger, cubeb, black pepper, balsam tolu, St. John's bread and vanilla resins showed that the reactions with 5% potassium hydroxide solution, iron chloride solution, strong hydrochloric acid, basic lead acetate, and gelatin are useful in differentiating foreign resins from vanilla resin. Steam distillation of solutions of orange and lemon oils in corn oil, cotton-seed oil and light mineral oil menstrums gave a max. error of 4 per cent, average 2.9 per cent, but it is important that no Kjeldahl traps be used as it gives very low results (error up to—19 per cent). As only 95 per cent of essential oil is recovered with lemon and orange flavors, the amount actually recovered is corrected by dividing by 0.95. The polariscope factors for the orange and lemon oils in the various menstrums were calculated from the rotation of 20 authentic samples of flavors. Application of these factors gave a maximum error of 5.0 per cent and average error of 1.2 per cent on thirty-one samples.

The speed of absorption of moisture by granulated sugar. K. K. Shiiko-Park-Homenko. Zapiski (Russian) 3,291-4 (1926). C. A. 21,189. Granulated sugars of varying fineness were washed with alcohol and kept in closed vessels for 6 months. After that they were placed on a water bath to dry at 98-99°C. for 9.5 hours. Polarization showed them to be 100% pure, with no invert sugar. Small dishes containing 9.9946 grain of sugar were placed in a desic-

cator which contained pure water. All of the containers were disinfected. A capillary glass tube from the desiccator regulated the pressure. At 25°C., with a full vapor pressure for this temp., the absorption of moisture increases with the time. In general the fineness of crystal state determines the speed of absorption. In part the speed increases proportionally to the size of the crystals. A slight decrease noticed in the finest grained sugar under experiment is explained by a slower air circulation. Experiments with various vapor pressures show that absorption is proportional to the vapor pressure.

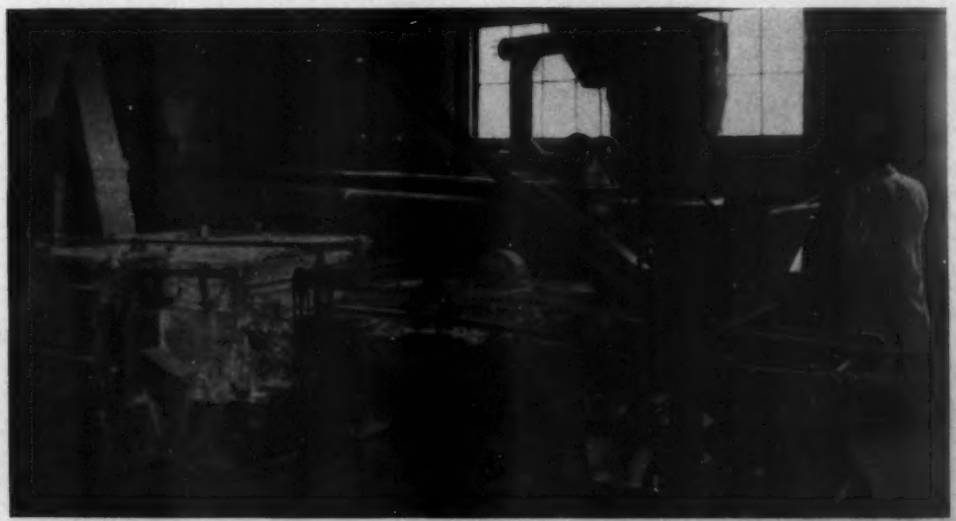
Polarimetric determination of sucrose in sweetened condensed milk. Paula Honegger. Analyst 51, 496-503 (1926). C. A. 21,967. Take 26 grains of the milk and wash into a 110-cc. flask with sufficient hot water to bring the vol. to about 90 cc. Heat 3 min. in boiling water, cool to 20°, add 3cc. of Hg (NO3)2 soln., make up to the 100 cc. mark and add 4 cc. more of water, shake vigorously and filter. Fill the polarimetric tube with the filtrate and take a reading at 20°. The whole determination can be finished in 25 min. and the results are accurate. The influence of the kind of filter paper used, the effect of milk sugar, the calculation of the sugar content, seasonal irregularities, etc., are discussed in detail.

Experiments to determine the extent of drying out of sugar stored at different altitudes in the union (of S. Africa). D. M. Eadie. Proc. S. African Sugar Association. 4th Ann. Cong. 1926, 42-6. C. A. 21,189. Weighted bags of sugar were stored in 4 places representing different climatic conditions. The bags were periodically reweighed, the moisture was determined in the sugar, and the atmospheric humidity measured. The results are presented in tabular form. Above 60% relative humidity the sugars gained in weight, and below that point they lost. But the gain or loss was well within 1%, larger deviations being due to extraneous causes. Conclusion: In the ordinary course of trade there would be no danger of unintentional infraction of the weight law.

The Manufacture of Chocolate by P. Zipperer, 4th Edition, revised and enlarged by H. Schaeffer and Schroder. Berlin: M. Krayn. 338 pages. Reviewed in Exp. Sta. Record Volume 54, page 507.

A Proposed Need Food Color. H. Johnson and P. Staub—J. Ind. Eng. Ch. 19,497 (1927). A new color, named Fast Green F. C. F., is now being considered for admission to the list of food colors, permitted under the rulings of the U. S. Department of Agriculture. The new color is a coal tar derivative, similar in its general composition to Light Green S. F. Yellowish and Guinea Green B., the two green colors already on the certified color list. It has already passed the psychological tests required by the Department of Agriculture.

Investigation has shown that Fast Green F. C. F. is a fast non-fading color when used in foodstuffs, and beverages, whereas under the same conditions Light Green and Guinea Green are subject to rapid and sometimes complete decolorization. The new color is also more intense than the two other greens, which means that the manufacturer can use much less of it to produce the desired effect.

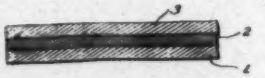


Gum Work Department Equipped with Contin uous Mechanical Starch Dryer Which Renews Clean, Ory, Starch of a Predetermined Tem perature and Moisture Content, to the Mogul Every Eight Minutes

WHAT'S NEW?

New Patents

1,613,231. CANDY CONFECTION AND PROCESS OF MAKING THE SAME. William S. Lord, Evanston, and Ollie Clyde Ashley, Chicago Heights, Ill., assignors to Williamson Candy Company, Chicago, Ill., a Corporation of Illinois. Filed Jan. 28, 1926. Serial No. 84,354. 2 Claims. (Cl. 99—16.)

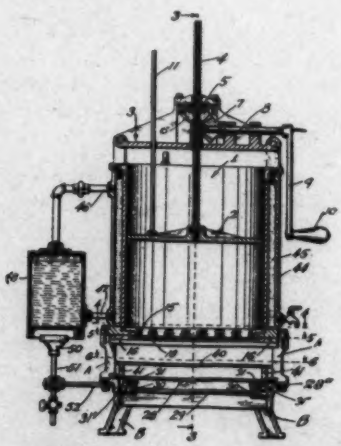


1. The process of making a candy confection which consists in initially forming a composite mat comprising an intermediate layer of hard, frangible candy and bonding layers of candy having substantially the consistency of caramel candy applied to both sides of said intermediate layer, and in then cutting said mat into pieces of desired size and shape for commercial purposes.

1,621,568. METHOD FOR MAKING CONFECTIONS. Zelman E. Vose, Boston, Mass. Filed Apr. 15, 1924. Serial No. 706,783. 10 Claims. (Cl. 107—54.)

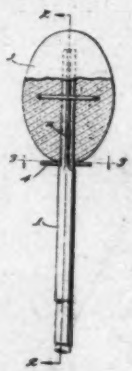
5. The method of making a composite confection of the class described which consists in agitating a mould containing a warm fluid center suspended in melted chocolate.

1,622,115. CREAM DEPOSITOR FOR HAND-ROLL CENTERS FOR CANDIES. Harry E. Hontz, Los Angeles, Calif., assignor to Rex Products Co., Inc., Los Angeles, Calif., a Corporation of California. Filed Sept. 18, 1920. Serial No. 411,231. 2 Claims. (Cl. 107—29.)



2. A cream depositor comprising a receptacle, a die plate forming the bottom of said receptacle, a plunger reciprocable in said receptacle, means for causing said plunger to force material in said receptacle through the die plate, cutting means arranged beneath the die plate, a gauge plate disposed beneath said cutting means, guide means for causing said gauge plate to move vertically, rock shafts disposed beneath said gauge plate, arms carried by said rock shafts, rollers mounted upon said arms engageable upon the under side of said die plate to raise and lower it upon rotation of said rock shafts, and means for rotating said rock shafts.

1,623,926. HOLDER FOR CONFECTIONS AND NAPKINS. Jack D. Kohler, Miami, Fla. Filed Oct. 4, 1926. Serial No. 139,500. 2 Claims. (Cl. 99—16.)



1. A combined handle and anchor for frozen or like sticky confections, comprising a tubular member having one of its ends pressed longitudinally to provide the same with angularly disposed flattened ribs that provide an anchor and close one end of the tube, the tubular portion affording a compartment for a napkin and a protector disc slidably arranged on the anchor end of the device.

1,623,165. CANDY JUMPING JACK. Willis W. Cassidy, Salt Lake City, Utah, assignor to Sweet Candy Company, Salt Lake City, Utah, a Corporation of Utah. Filed Aug. 2, 1926. Serial No. 126,710. 6 Claims. (Cl. 46—40.)

4. A toy including a carton forming the body of a figure and having a head, wrapped candy members forming the arms of such figure and having a flexible connection extending through one end portion of the body, and wrapped candy members forming the legs of such figure and having a flexible connection extending through the other end portion of the body.